nstruments

THE MAGAZINE O

Measuremen
and Contro

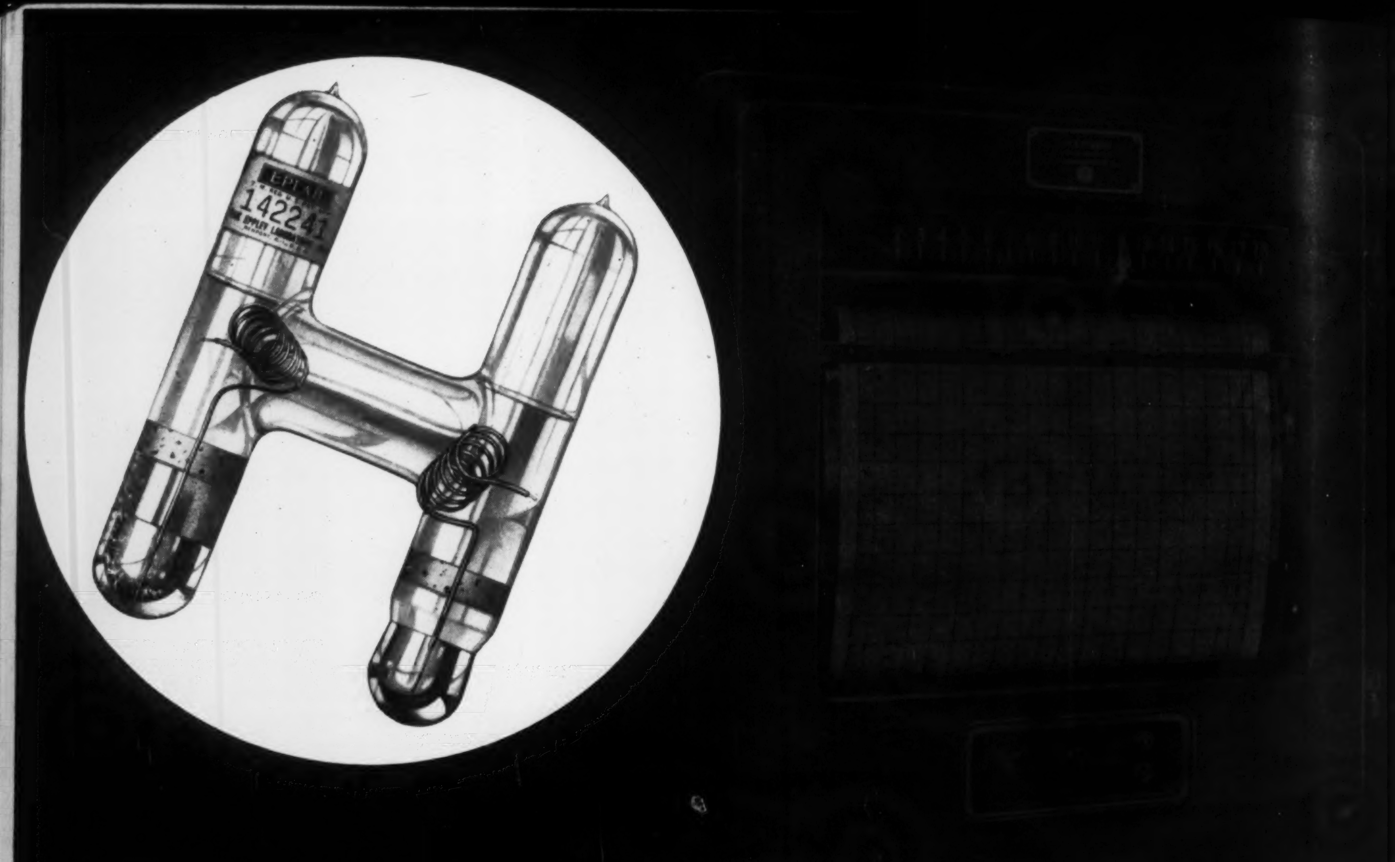
Vol. 16
JAN.
1943
No. 1

SPECIAL ISSUE :: IN TWO PARTS

PART TWO

THE 1943 Instruments INDEX

INCLUDING Aviation Instruments



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EPLAB *Standard* CELLS
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"As Standard as Sterling"

SPECIAL ISSUE OF

Instruments
THE MAGAZINE OF Measurement and Control

Vol. 16 JANUARY 1943 No. 1

In Two Parts

PART TWO—

THE 1943 INSTRUMENTS INDEX

CONTENTS

1. *Index to Instruments and Apparatus.* **In this section, products are listed alphabetically. Under each heading appear the names of the manufacturers of this equipment (and of the sole representatives of such manufacturers).** *Pages I-12 to I-106.*

2. *List of the Laboratory Supply Houses.* **Under the heading "Apparatus, Laboratory," on pages I-14 to I-15, are listed companies specializing in laboratory supplies, equipment, instruments and apparatus.**

3. *Directory of Manufacturers and sole representatives,* **with complete addresses and brief descriptions.** *Pages I-107 to I-118.*

4. *Manufacturers' Literature.* **New literature pertaining to Instrumentation.** *Pages I-123 to I-124.*

5. *Index to Advertisers in this Section. Page I-122.*

6. *Annual Index to Articles and Authors in Instruments, Volume 15, 1942. Pages I-119 - I-121.*

Published Monthly on the 15th by
THE INSTRUMENTS PUBLISHING COMPANY
1117 Wolfendale Street, Pittsburgh, Pa.
RICHARD RIMBACH, Publisher M. F. BEHAR, Editor

FIELD REPRESENTATIVES
Boston: James Condon, 36 Myrtle St. (Lafayette 0829). *New York:* R. K. Farnham, 545 Fifth Ave. (Murray Hill 2-4217). *Cincinnati:* Harold W. Haskett, Keith Bldg. (Main 4260). *Chicago:* Harold W. Haskett, Room 701, 360 N. Michigan Ave. (Franklin 5783)

MEMBER Audit Bureau of Circulations ABC

Annual Subscription: U. S. $2.00. All other countries $7.00 *payable in advance* (remit by New York draft). Copyright 1943 by The Instruments Publishing Company. Entered as second-class matter January 26, 1932, at the post office at Pittsburgh under the Act of March 3, 1879.

HEADQUARTERS FOR ELECTRICAL CONTROL DEVICES

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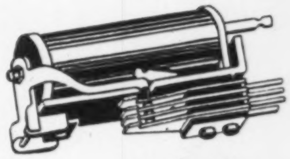
STEPPING SWITCHES
ELECTRIC COUNTERS
SIGNAL LAMPS
SWITCHING KEYS
PLUGS AND JACKS



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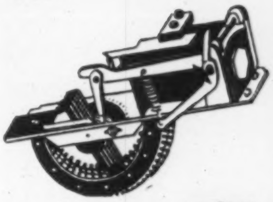

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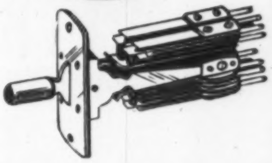

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PIONEER INSTRUMENT DIVISION

The 1943 Instruments Index

THIS issue of the INDEX has been compiled to meet the need of users of instruments and de-ices for measurement, inspection, testing and con-rol, for a purchasing directory of such equipment. The INDEX contains the answers to 99% of the nquiries which *Instruments* receives from subscrib-rs, and places at your instant command a wealth of information.

This directory is arranged, indexed and cross-ndexed to make its contents easily available.

The Index Section—"Who makes what"—is the most important. Anyone who wants to know where he can buy or secure information on a certain prod-uct will find the product properly indexed and cross-indexed, and under it the names of the manu-acturers of this equipment and manufacturers' ole representatives.

Many products listed are on a priority basis, other items are available only to military custom-ers at present, but manufacturers will be glad to eceive inquiries from you on the possibility of being able to supply your needs in spite of priori-ties.

Indexing System. Products are indexed under the main word. In cases where a name is ambiguous, or where the item is known under two or more names, companies making such devices are listed under one heading and cross-references inserted under the other headings.

Specific Terms. You never are in need of "a gage" but of some particular kind of gage. Therefore we do not list manufacturers under broad general des-ignations. For example, we do not list any names under the main heading "Meters" but we give the sources of supply for numerous classes and types of meters. Moreover, we do not list any names un-der "Meters, Liquid" alone, but we give under proper subheads the sources of supply for the *class* and *type* of liquid meter you may need.

Correctness of Headings. As explained above, main headings and subheads are technically correct. A few are not scientifically correct: they are names in common usage, recognized for the convenience of the majority.

Correctness of Listings. A few of the companies listed and advertising in the INDEX you already know. All of them are actively engaged in the manufacture of instruments and devices for measurement, inspection, testing and control. We have endeavored to list no firm names under specific headings unless the instruments made by such firms belong there by virtue of their design and construction. As a rule, we have to take the company's word that it could supply the product in question.

Completeness. More than 1200 manufacturers were canvassed in the last four months. Those that did not answer our first letter after one month received a second one. Again, a third letter was sent to nonresponders at the end of the second month. In the last few weeks we even sent representatives to call on manufacturers. Therefore, the omission of any manufacturer's name under any heading is due to the negligence of someone in his own organization.

Every effort has been made to restrict the names in the Index Section to (1) the actual manufacturers and (2) the sole authorized sales agencies. On the other hand, whenever you desire to order at one time a variety of equipment, made by different firms, you may find it most convenient to get in touch with a recognized, competent, "laboratory supply house." These houses are listed under "*Apparatus, Laboratory,*" on page I-12.

Instruments' Further Service. This Index contains the answers to *only* 99% of your inquiries. If you cannot find the product or the name you want, communicate with the Information Section, Instruments Publishing Co., 1117 Wolfendale St., Pittsburgh, and every effort will be made to furnish the information promptly.

Suggestions. We shall appreciate suggestions regarding:

1. Headings not at present found in this Index which should be there,
2. Firms listed erroneously, and
3. Other inaccuracies which may have crept in despite all precautions.

Use this INDEX consistently. You will find the companies listed herein equipped to render the kind of service which saves time and helps make satisfied customers.

Where companies in whose products you are interested have omitted descriptions, your cooperation is invited in bringing this to the attention of the supplier or the publisher. Also, whenever the INDEX has aided you, please inform the manufacturer that his data in THE INSTRUMENTS INDEX were of help to you.

INDEX SECTION

ABRASION MACHINES (See Testers, Abrasion)

ABSOLUTE PRESSURE INDICATORS (See Gages, Absolute Pressure)

ABSORPTIOMETERS
Brabender Corp.

ACCELEROMETERS
Alpha Instrument Co.
Baldwin Southwark
Brush Development Co.
Cambridge Inst. Co.
Commercial Eng. Labs.
Consolidated Engg.
Cramer & Co., Inc.
General Elec. Co.
Hathaway Inst. Co.
Heiland Research
Impact Register
Kollsman Inst. Co.
Metron Instrument
Pioneer Inst. Co.
Thwing-Albert Inst. Co.

ACIDIMETERS
Elmer & Amend
Hellige, Inc.
Henszey Co.
Rieker Inst. Co.
Rubicon Co.
Ruehfel Co.
Tagliabue Mfg. Co.
Taylor & Co., W. A.
Thwing-Albert Inst. Co.
Uehling Instrument Co.

ACOUSTIMETERS (See Sound Level Meters)

ACTUATORS, Hydraulic
Automatic Products
Hydraulic Controls
Infilco Inc.
Leupold & Stevens

AEROGRAPHS
Aerological Developments
Fuess, Inc.

AEROMETERS
Friez & Sons

AIR ANALYSIS APPARATUS (See Gas Analyzers, Air)

AIRCRAFT INSTRUMENT TOOLS
Marshall Co.

AIRCRAFT FLIGHT ANALYZERS
Impact Register

AIRCRAFT NAVIGATIONAL INSTRUMENTS
Bausch & Lomb Opt.
De Jur-Amsco
Elgin National Watch
Federal Telegraph
Fischer & Porter
Fuess, Inc.
General Elec. Co.
Gurley, W. & L. E.
Hathaway Inst. Co.
Hickok Elec. Inst. Co.
Impact Register
Jaeger Watch Co.
Kenyon Instrument
Kollsman Inst. Co.
Machlett & Son
Manning, Maxwell & Moore
Moisture Register Co.
Pioneer Instrument Co.
Rieker Inst. Co.
Sperry Gyroscope Co.
RCA Manufacturing Co.
Schwien Engg. Co.
Simmonds Accessories
United Cinephone Corp.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.
Carl Zeiss, Inc.

AIRCRAFT POWER PLANT INSTRUMENTS
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Beck Bros.
Bowser & Co.
Cambridge Inst. Co.
De Jur-Amsco Corp.
Edison Electric Controls
General Elec. Co.
Hays Corp.
Jaeger Watch Co.
Kenyon Instrument Co.
Kollsman Inst. Co.
Lewis Engg. Co.
Moisture Register Co.
Pioneer Instrument Co.
Rieker Inst. Co.
Roller-Smith Co.
Thwing-Albert Inst. Co.
U. S. Gauge Co.
Westinghouse Elec. & Mfg.
Weston Elec. Inst Corp.
Winslow Co.

AIR DISTANCE, Indicators & Recorders
Jaeger Watch Co.

AIR FLOW METERS (See Flowmeters, Air)

AIR METERS (See Gas Meters, Positive)

AIRSPEED INDICATORS (See also Aircraft)
Fuess, Inc.
Hathaway Instrument
Illinois Testing Labs.
Impact Register (Recorders)
Jaeger Watch Co.
Kollsman Inst. Co.
Meriam Co.
Pioneer Instrument Co.
Schwien Engg. Co.
Technicraft Engg.
U. S. Gauge Co.
Zernickow Co.

AIRSPEED INDICATOR TESTERS
Amthor Test. Inst. Co.
Jaeger Watch Co.
Pioneer Instrument Co.

ALARMS, Carbon Bisulphide
Bushnell & Nevins

ALARMS, Carbon Monoxide, Combustible Gas, etc.
Mine Safety Appliances

ALARMS, High, low water (See Alarms, Liquid Level)

ALARMS, Hydrogen
phide
Bushnell & Nevins
Davis Emergency Equi
Johnson-Williams, Ltd.

ALARMS, Inflammable
Bristol Co.
Davis Emergency Equi
Engineering Labs., Inc
Johnson-Williams, Ltd.
Leeds & Northrup Co.
Mine Safety Appliance
Viking Instruments, In
Wheelco Instruments C

ALARMS, Liquid Level
Autocall Co.
Automatic Control Co.
Bailey Meter Co.
Bin-Dicator Co.
Boston Auto Gage Co.
Bristol Co.
Brown Inst. Co.
Cutler-Hammer, Inc.
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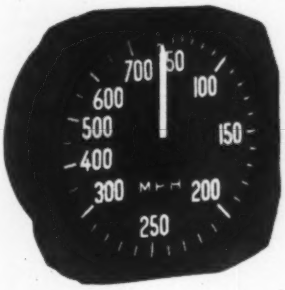

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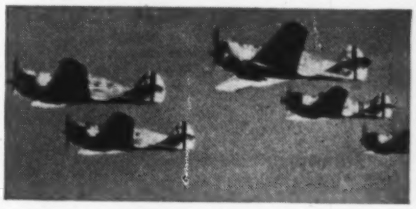

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COMPASSES
ELECTRIC TACHOMETERS
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ICE WARNING INDICATORS
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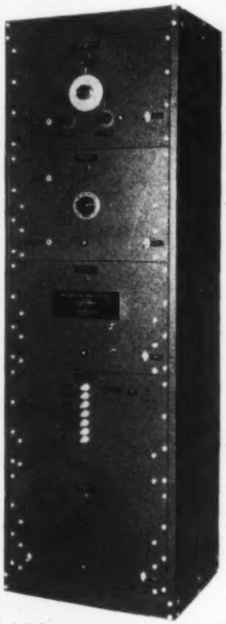
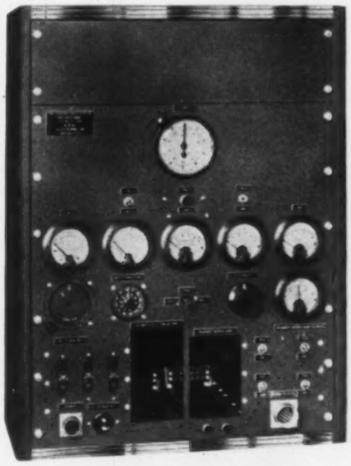
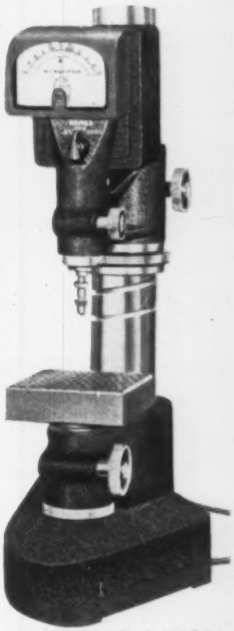


HIGH POWER AUDIO

GYRO TEST



FLIGHT TEST



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ALIDADES (See Surveying Instruments)

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ALTIMETER TESTERS
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Fuess, Inc.
Kenyon Instrument Co.
Pioneer Instrument Co.

ALTITUDE BAROMETERS (See Barometers, Altitude)

AMMETERS, Contact-making
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General Electric Co.
Hickok Electrical Inst.
Reliance Instrument Co.
Roller-Smith Co.
Weston Electrical Inst.

AMMETERS, Indicating
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Cambridge Inst. Co.
Columbia Elec. Mfg.
De Jur-Amsco Corp.
Electric Auto-Lite
Engelhard, Chas.
Ferranti Electric, Inc.
General Elec. Co.
Hickok Elec. Inst. Co.
J-B-T Insts.
Knickerbocker Dev.
Lundquist Tool & Mfg.
Niagara Electrical Inst.
Norton Electrical Inst.
Precision Apparatus Corp.
Radio City Products Co.
Rawson Elec. Inst. Co.
Reliance Instrument Co.
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Roller-Smith Co.
Sensitive Research Inst.
Simpson Electric Co.
Therm-Electric Meters
Triplett Electrical Inst.
Welch Mfg. Co.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.
Wheelco Inst. Co.
Winslow Co.

AMMETERS, Microammeters
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Cambridge Inst. Co.
Clough-Brengle Co.
Dayton Acme Co.
De Jur-Amsco Corp.
Engelhard, Chas.
General Elec. Co.
Hickok Elec. Inst. Co.
Knickerbocker Dev.
Pfaltz & Bauer, Inc.
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Roller-Smith Co.
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Triplett Electrical Inst.
Triumph Mfg. Co.
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Wheelco Inst. Co.
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Clough-Brengle Co.
Dayton Acme Co.
De Jur-Amsco Corp.
Engelhard, Chas.
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J-B-T Insts.
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Lundquist Tool & Mfg.
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Welch Mfg. Co.
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Wheelco Inst. Co.
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AMMETERS, Recording
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General Elec. Co.
Leeds & Northrup Co.
Roller-Smith Co.
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AMMETERS, Split Core
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HD Elec. Co.
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RCA Manufacturing Co.
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Triumph Mfg. Co.
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AMPLIFIERS, Audio Frequency (See Audio-Frequency Equipment)

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McFarlin Co.
Metron Instrument
Raytheon Mfg. Co.
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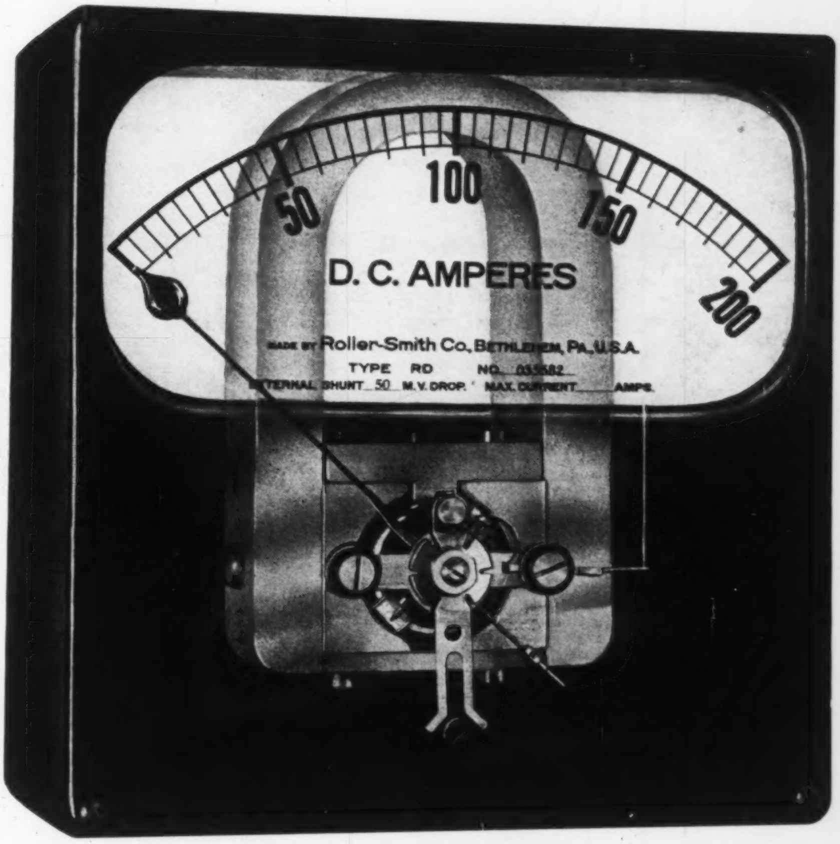
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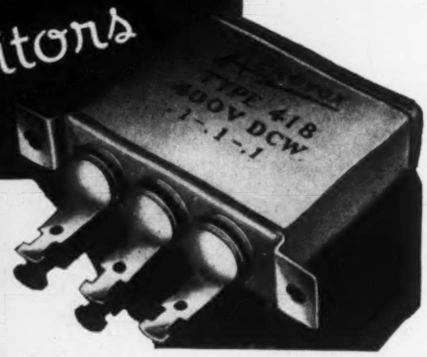

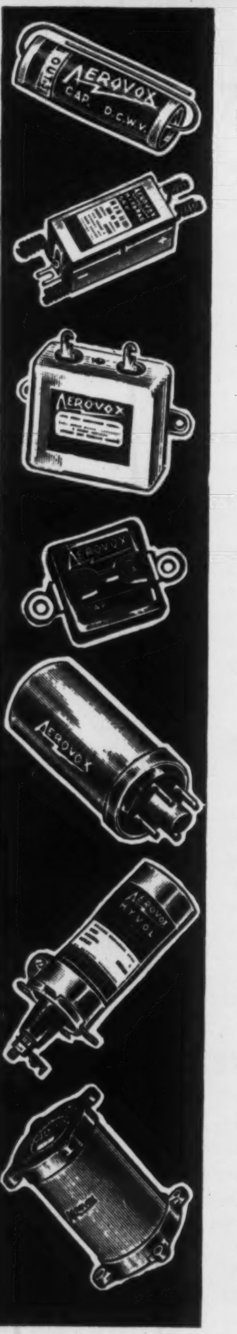

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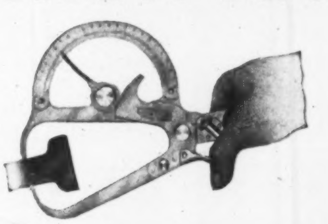

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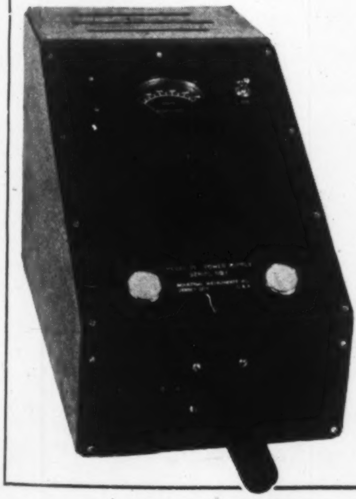

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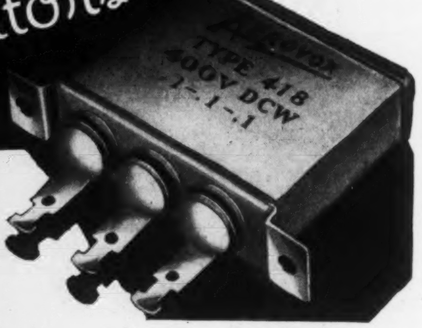

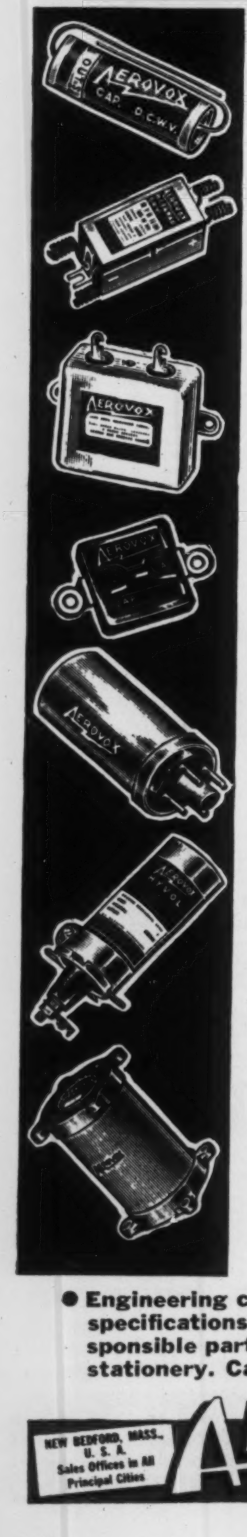

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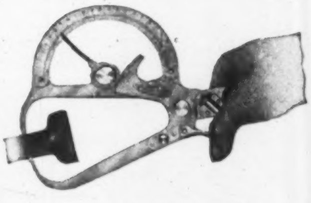

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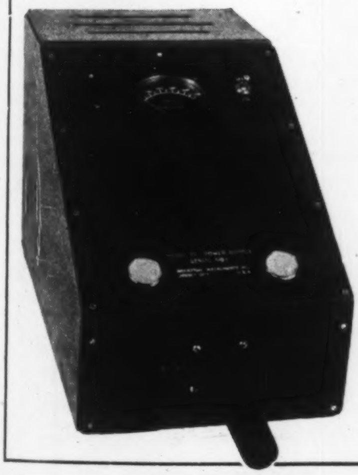

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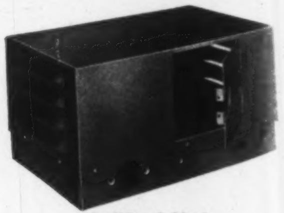

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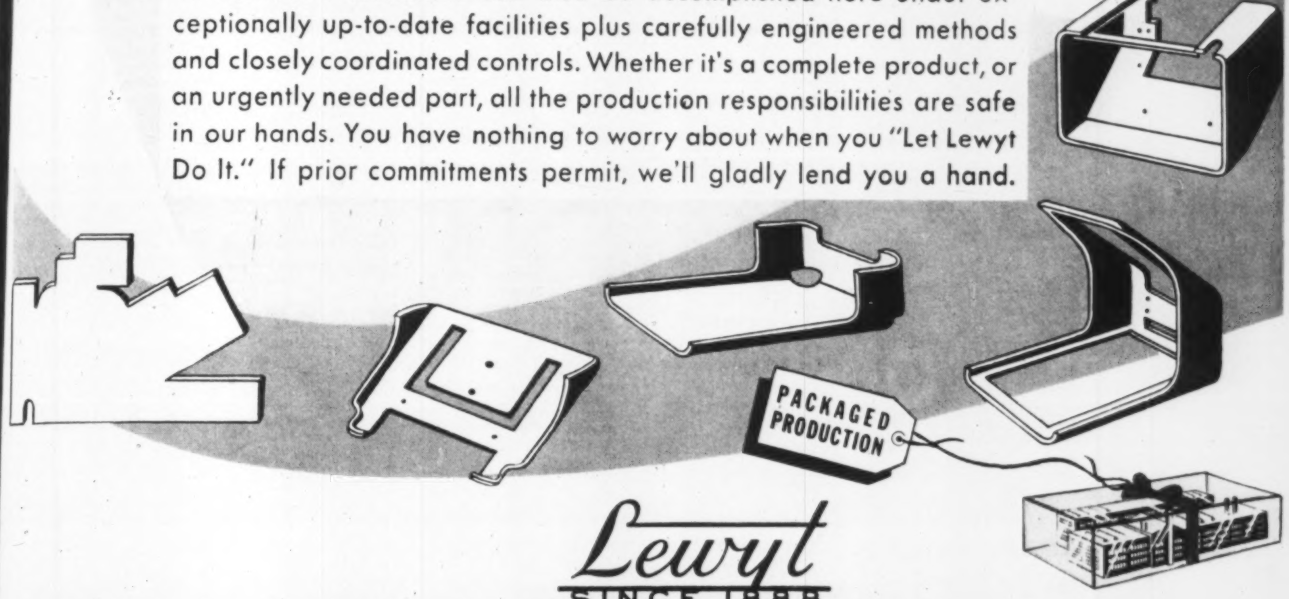

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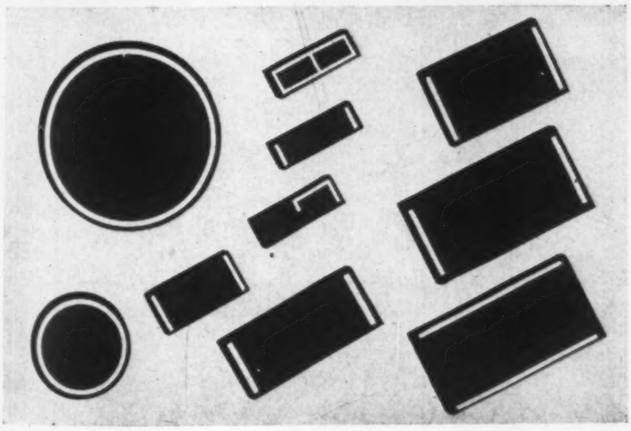

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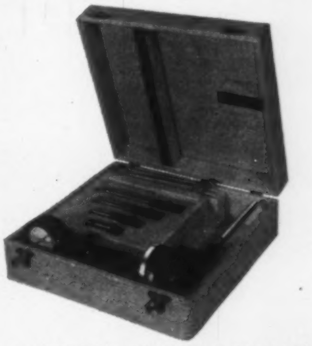

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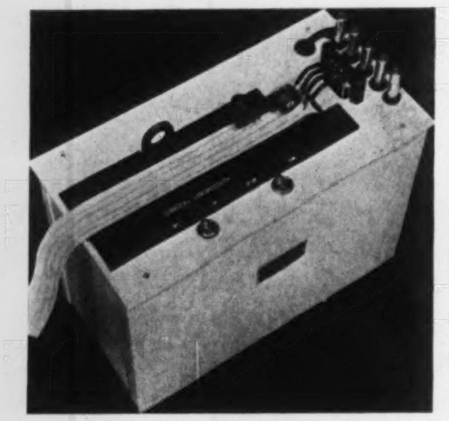

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Gow-Mac Instrument Co.
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CELLS, Photoelectric
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Clebar Watch Co.
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Electro-Medical Lab.
Esterline-Angus Co.
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Gaertner Scientific Corp.
Jaeger Watch Co.
Jardur Import Co.
Pierce Watch Co.
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Roth Bros. Chronometer
Waugh Laboratories

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Negus, T. S. & J. D.
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Paragon Electric Co.
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Stromberg Electric Co.
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Elec. Tachometer Corp.
General Elec. Co.
Howard Clock Products
International Bus. Mach.
National Time & Signal
Paragon Electric Co.
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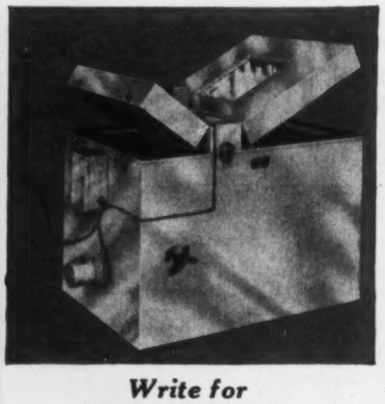

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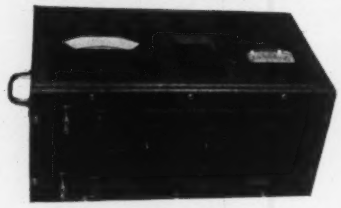

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COMPASSES, Automobile
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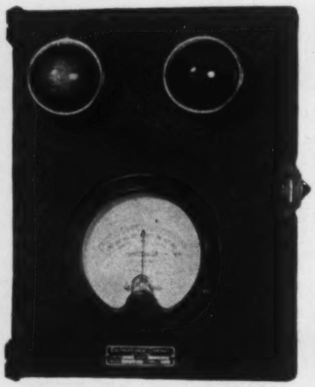

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Triumph Mfg. Co.

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COMPASSES, Telltale (See Compasses, Marine)

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CONTROLS, AUTOMATIC (See Controllers, Automatic)

CONTROLLERS, AUTOMATIC (See also object of Measurement and Control)

"CONTROL" — NOTE —

The following pages deserve close study. Note for example that after numerous "Controllers, Automatic" there are three classes of "Controllers, Manual." Look up also under "Regulators" for many types thus termed by usage. Also "Thermostats" and other commonly-used names of specific-purpose automatic controllers.

As a rule, Automatic Controllers are "instrument-like" while devices known as Controls (preceded by name of application) are simple, single-purpose devices.

CONTROLLERS, AUTOMATIC, Ammonia (See Ammonia Control Equipment)

CONTROLLERS, AUTOMATIC, Beater (See Controllers, Automatic, Consistency)

CONTROLLERS, AUTOMATIC, Bin (see Controllers, Automatic, Granular Material, Level)

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Kiely & Mueller
Leeds & Northrup
Manning, Maxwell&Moore
Mason-Neilan Regulator
McDonnell & Miller
Mercon Regulator Co.
Natural Gas Equipment
Northern Equip. Co.
Photoswitch, Inc.
Republic Flow Meters Co.
Robertshaw Thermostat
Ruggles-Klingemann
Watts Regulator Co.
Wheelco Instruments
Wilgus Mfg. Co.

CONTROLLERS, AUTOMATIC, Boiler Water Concentration
Cochrane Corp.
Fischer & Porter
Henszey Co.
Leeds & Northrup Co.
Republic Flow Meters
Manning, Maxwell&Moore

CONTROLLERS, AUTOMATIC, Bulk Material Level see Controllers, Automatic, Granular Material Level

CONTROLLERS, AUTOMATIC, Chlorine
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Askania Regulator Co.
Builders-Providence
Everson Mfg. Co.
Fischer & Porter
LaMotte Chemical Prod
Manning, Maxwell&Moore
National Meter Co.
Rascher & Betzold
Victor Equipment Co.
Wallace & Tiernan

CONTROLLERS, AUTOMATIC, Combustion
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Arca Regulators, Inc.
Askania Regulator Co.
Bailey Meter Co.
Brooke Eng. Co.
Cambridge Inst. Co.
Cash Co.
Consulting & Engineering
Denver Fire Clay Co.
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Hagan Corp.
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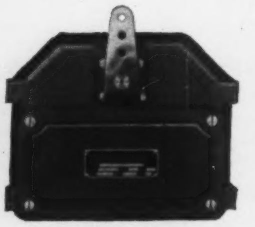
Mason-Neilan Reg. Co.
Minneapolis-Honeywell
National Airoil Burner
National Brass Co.
Natural Gas Equipment
Photoswitch, Inc.
Republic Flow Meters
Selas Company
Worner Products

MOTOR-OPERATED
Controllers
For automatic control of Temperature, Level, Pressure, Flow
by atc

ATC motor-operated controllers for positioning valves or dampers are rugged, accurate devices designed for easy installation. An instrument for indicating or recording temperature, level, pressure or flow and having electrical contacts can actuate an ATC Controller so that valves or dampers are moved to corrective positions. ATC offers the broadest choice of standard, motor-operated Controllers ranging from the simplest "off-on" control to fully balancing the medium with the demand at any moment. Send for Catalog.

Type 2 Valve Operator



Type 3 Valve Operator

Representatives in Principal Cities

atc *Industrial Controls*
AUTOMATIC TEMPERATURE CONTROL COMPANY, INC.
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COMPLETE INSTRUMENTATION

for **INDUSTRIAL PROCESSES**

CONTROLLERS for temperature, pressure, absolute pressure, rate of flow and liquid level. Air-operated potentiometer controllers. Exclusive features resulting in unexcelled performance.

RECORDERS of temperature, pressure, flow level, motion, absolute pressure.

INDICATORS of temperature, pressure, flow and level.

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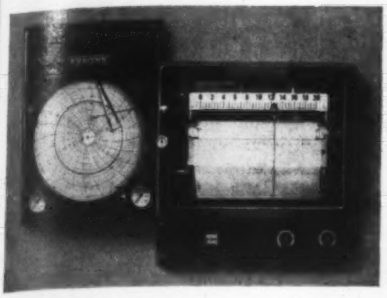

BROWN CONTROLLERS

Electric or
Air-Operated Types

Brown instruments are supplied as electric or air-operated controllers, complete with valves, motor mechanisms and relays, for automatically controlling temperatures, pressures, flows, liquid levels, humidity, etc. Instruments indicate or record while they control power plant or industrial processes. Write for Catalog 8903.

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Transmission System

For remote transmission of measurement and control of temperatures, pressures, flows and liquid levels in hazardous atmospheres. Write for Catalog.

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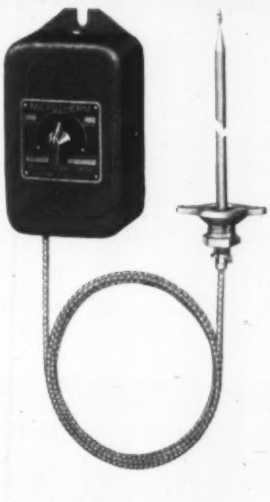
BROWN INSTRUMENTS
AND
MINNEAPOLIS-HONEYWELL CONTROL SYSTEMS

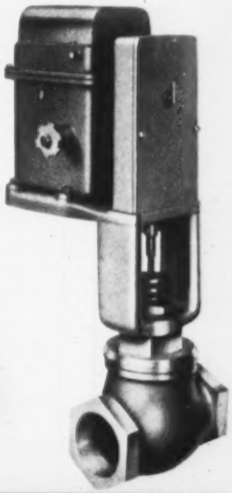
To Measure and Control is to Economize

BARBER-COLMAN MICRO SYSTEM



FOR INDUSTRIAL PROCESS CONTROL

By using a solenoid-loaded contact tongue, with the pull of the solenoid governed by a rheostat on the valve motor shaft, the Microtherm (left) is able to position the Proportioning Valve (right) so as to satisfy exactly any change in demand. Features include simple construction, no relays, and maximum power at all points of the valve stroke. "Hunting" is eliminated and the valve is positioned quickly with "micrometer accuracy."



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"CONTROLS for INDUSTRY"

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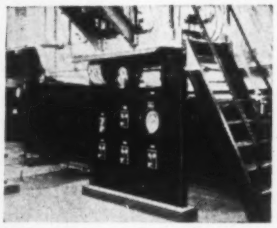

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Combustion
CONTROL

● Bailey Meter Automatic Combustion Control of boilers results in substantial saving in fuel; increased boiler capacity; reduction of boiler and furnace maintenance; more time for operators to devote to general station maintenance; and improvement in the general character of service.

Bailey Meter Control makes possible the everyday operation of boilers at test efficiencies because it is a complete combustion control system which (1) automatically maintains steam pressure by supplying fuel and air simultaneously to boilers in accordance with changes in steam demand, (2) automatically maintains most economical fuel-air ratio by incorporating the Bailey Boiler Meter as an integral part of the system, (3) automatically maintains the desired furnace draft, and (4) automatically distributes load among boilers so that each unit carries its share.

This sturdy inexpensive air-operated control system has been applied to all sizes and types of boilers ranging from 200 h.p. upward. It is applicable to all fuels and all methods of firing.

For further information consult Sweet's Engineering Catalogs or write for bulletin No. 102-C.

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Bailey Meter Company Ltd., Montreal, Canada

Wheelco Flame-otrols Combustion Safeguards

Wheelco Flame-otrols provide positive safety against combustion explosions resulting from flame failure. Flame-otrols also prevent entry of fuel into the combustion chamber until adequate means are provided for establishing ignition.

The Flame-otrol is the only combustion safeguard approved by both Underwriters' Laboratories and Associated Factory Mutual Laboratories for all types of fuel.

Complete description given in
Bulletin No. L2-2.
Write for your copy, today.

Wheelco Instruments Co.
833 W. HARRISON STREET · CHICAGO, ILLINOIS
Originator of
"Electronic Principle" Temperature Controls

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AUTOMATIC
COMBUSTION CONTROL
The All-Electric System

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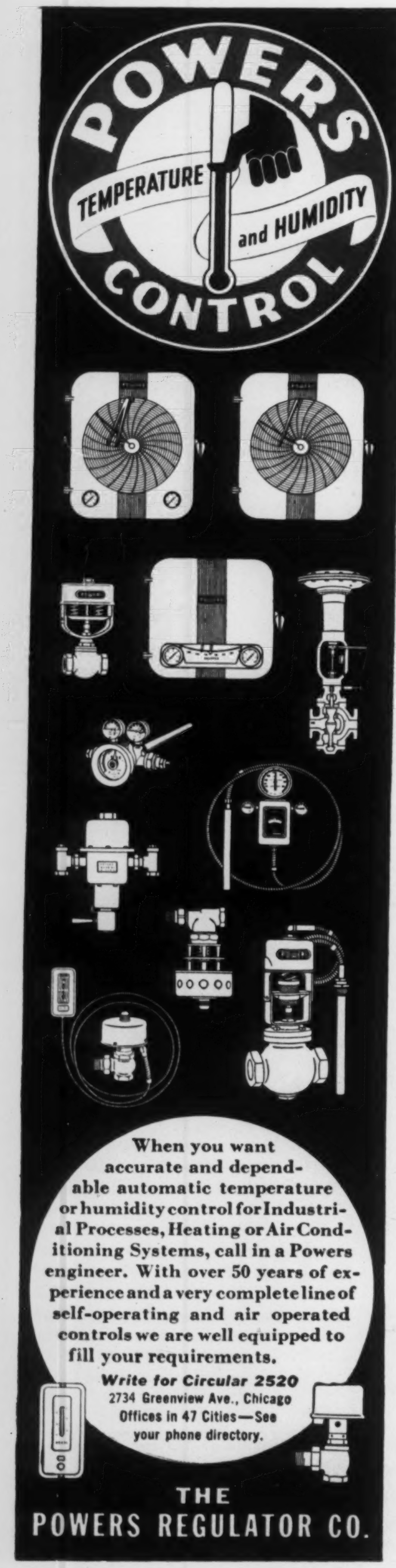
MICHIGAN CITY INDIANA USA



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D'Este Co.
Foxboro Co.
Mason-Neilan Regulator
Merritt Engr. & Sales
Paprex Co.
Process Controls, Inc.

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Eagle Signal Corp.
Lumenite Electric Co.
Manning, Maxwell&Moore
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Photoswitch, Inc.
Seely Instrument Co.
Standard Electric Time
United Cinephone Corp.

CONTROLLERS, AUTOMATIC, Current (See Regulators)

CONTROLLERS, AUTOMATIC, Cycle

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Bristol Co.
Brown Inst. Co.
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Elec. Switch Corp.
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Mason-Neilan Reg. Co.
Minneapolis-Honeywell
Monitor Controller Co.
National Time & Signal
Seely Instrument Co.
Tagliabue Mfg. Co.
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Belfield Co.
Bristol Co.
Brooke Eng. Co.
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Cook Electric Co.
Davis Reg. Co.
Denver Fire Clay Co.
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Foxboro Corp.
Friez & Sons, Julien
Gleason-Avery, Inc.
Hagan Corp.
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You CAN DEPEND on
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Today more than ever before, it is imperative that your plant's vital controls be HANLON-WATERS Equipped. Through many years of faithful service H-W has become the symbol of standard for high performance throughout the Petroleum, Chemical and Power Industries.

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8" Std. FG Type 86 MOTOR VALVE

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8" Type 140 Vent Trap

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ASK THE MEN WHO OPERATE THEM

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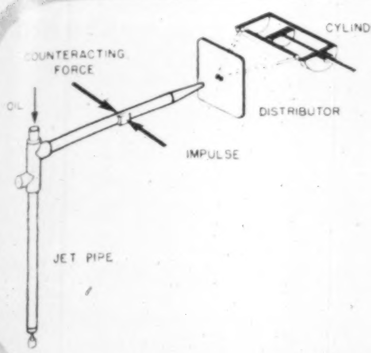
For addresses, see pages I-107—I-118



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The jet pipe principle is the basis of all Askania hydraulic control systems. The inherent advantages of this principle have brought to the nation's major industries a control system of noteworthy sensitivity . . . simplicity . . . and thus uninterrupted service. These features make the control ideal for an unlimited field of control applications . . . some of which are listed. We shall be pleased to discuss your problem specifically.

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AUTOMATIC CONTROL

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STEEL PLANTS

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Soaking pit
Furnace pressure control
Combustion control

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Furnace pressure control
Combustion control

GLASS PLANTS
Furnace pressure control
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Gas mixing control
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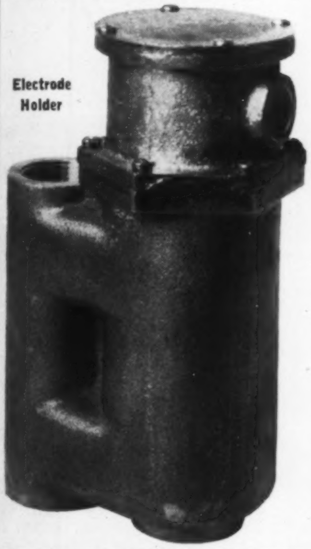
Askania alone has the Jet Pipe Principle



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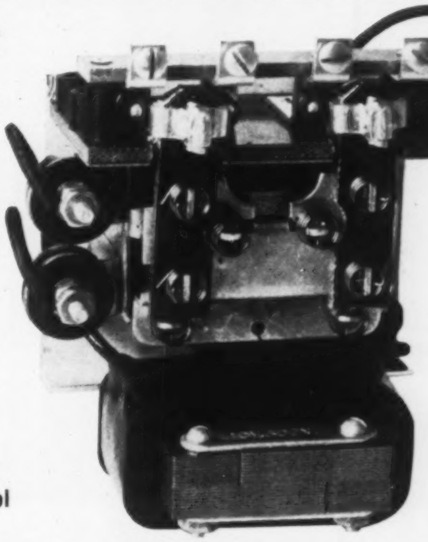
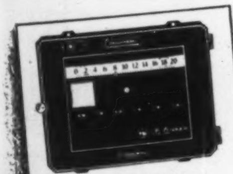
Originator of Electrode Type Liquid Control

We will appreciate your inquiries

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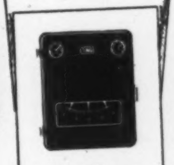
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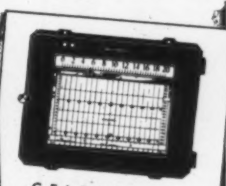
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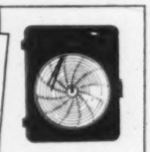
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TAG CONTROLLERS

Wherever the control of plant operations presents a production problem, TAG Automatic Controllers of either the electrical or air-operated types offer competent solution. These TAG Instruments have opened the way to better processing methods by more precise control of temperature, pressure and the time in which they act. Write for catalogs.

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and FLOW
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(DIRECT FLOAT OPERATED
& REMOTELY CONTROLLED)
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INDICATORS
o
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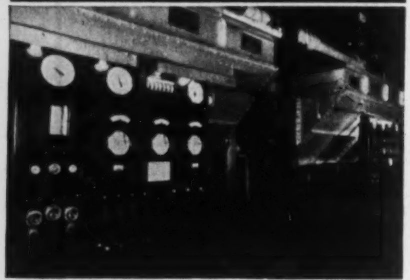
COMBUSTION CONTROL



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All Types of Firing

Republic-Smoot combustion control systems are designed for all sizes of boilers and all types of fuel firing equipment.

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Automatically maintains a constant steam pressure by controlling the fuel and air input to the boilers in balance with the boiler load.

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Automatically maintains maximum combustion efficiency over entire range of boiler rating, by controlling simultaneously the fuel and air input to boiler in measured proportions and in a fixed ratio.

LOAD DISTRIBUTION
Automatically distributes load equally among all the boilers, or the load can be distributed between the boilers as desired.

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Mercon Regulator Co.
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Bristol Co.
Brooke Eng. Co.
Brown Inst. Co.
Cash Co.
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Foster Eng. Co.
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Friez & Sons, Julien
General Regulator Corp.
Gleason-Avery, Inc.
Hagan Corp.
Hays Corp.
Leeds & Northrup Co.
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Mason-Neilan Regulator
Minneapolis-Honeywell
National Airoil Burner
National Brass Co.
Preferred Utilities Mfg.
Republic Flow Meters
Ruggles-Klingemann
Tagliabue Mfg. Co.
Taylor Inst. Cos.

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Atlas Valve Co.
Bailey Meter Co.
Belfield Co.
Fisher Governor
Fischer & Porter
Hagan Corp.
Hanlon-Waters, Inc.
Henszey Co.
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Manning, Maxwell&Moore
Mason-Neilan Reg. Co.
McAlear Mfg. Co.
McDonnell & Miller
Mercon Regulator Co.
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Northern Equip. Co.
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Ruggles-Klingemann
Schade Valve Mfg. Co.
Simplex Valve & Meter
Watts Regulator Co.
Wheelco Instruments
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Fischer & Porter
Infilco, Inc.
Manning, Maxwell&Moore
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Taylor Inst. Cos.

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Automatic Control Co.
Automatic Temp. Control
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Cochrane Corp.
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McAlear Mfg. Co.
Mercon Regulator Co.
Northern Equipment
Penn Electric Switch
Powers Regulator Co.
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Arca Regulators
Askania Regulator
Bailey Meter Co.
Bristol Co.
Brooke Engineering

(Cont'd)

CONTROLLERS, AUTOMATIC, Flow (Cont'd)

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Electrimatic Corp.
Fischer & Porter
Foster Engg. Co.
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McAlear Mfg. Co.
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Simplex Valve & Meter
Spence Eng. Co., Inc.
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Taylor Inst. Cos.
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Askania Regulator Co.
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Bailey Meter Co.
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Bristol Co.
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Brown Inst. Co.
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Electronic Prod. Co.
Fischer & Porter
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Hagan Corp.
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Spence Engr. Co., Inc.
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Taylor Inst. Cos.
Vergilio Co.
Victor Equipment Co.
Wheelco Inst. Co.

CONTROLLERS, AUTOMATIC, Fluid Proportioning

(See Controllers, Automatic, Flow Proportioning)

CONTROLLERS, AUTOMATIC, Frequency

(See Regulators)

CONTROLLERS, AUTOMATIC, Furnace

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Manning, Maxwell&Moore
Marsh Corp.
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McCorkle Co.
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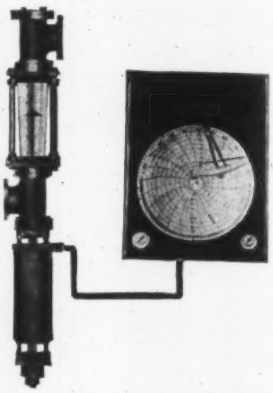
National Airoil Burner
National Brass Co.
Natural Gas Equipment
Paragon Electric Co.
Partlow Corp.
Payne Furnace & Supply
Penn Electric Switch
Perfex Corp.
Pyrometer Inst. Co.
Republic Flow Meters
Ruggles-Klingemann
Spence Engineering Co.
Spencer Thermostat Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
United Cinephone Corp.
Wheelco Inst. Co.
White Mfg. Co.
White-Rodgers Electric
Wilgus Mfg. Co.

FISCHER & PORTER
ROTA-MATIC

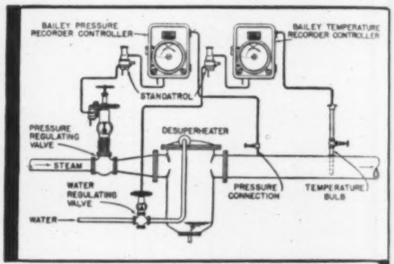


FOR AUTOMATIC CONTROL

The Rota-matic is a fully automatic controlling rotameter. It will maintain a constant flow rate regardless of process lag or continual load changes. The control point may be set at any flow over the entire range of the rotameter. Measures corrosive and viscous fluids which no other controller will handle. Also gives permanent chart record of flow rate and registers total flow.

Send for Bulletin 51-B

FISCHER & PORTER CO.
23 COUNTY LINE ROAD
HATBORO PENNSYLVANIA


BAILEY PRESSURE RECORDER CONTROLLER
BAILEY TEMPERATURE RECORDER CONTROLLER
STANDATROL
PRESSURE REGULATING VALVE
DESUPERHEATER
STEAM
WATER REGULATING VALVE
WATER
PRESSURE CONNECTION
TEMPERATURE BULB

DESUPERHEATING &
PRESSURE REDUCING
CONTROL

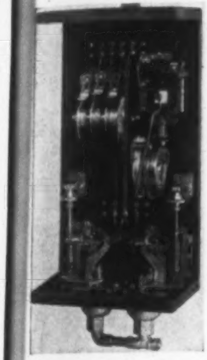
● Bailey Meter Control of desuperheating and pressure reducing incorporates standard Bailey Recorder-Controllers for both pressure and temperature, as well as a special Bailey Reducing Valve equipped with valve positioner and air cooled packing gland.

The control system is air-operated and is arranged to maintain the desired final steam temperature by controlling the quantity of water fed to a cartridge type desuperheater. This temperature is measured by a sensitive bare bulb temperature recorder-controller with the temperature bulb located at the ● outlet of the desuperheater.

BAILEY METER COMPANY
1041 IVANHOE ROAD · CLEVELAND, O.
Bailey Meter Company Ltd., Montreal, Canada

PUMP CONTROL

MOTOR DRIVEN ACCURACY in TIMING



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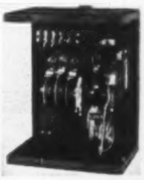
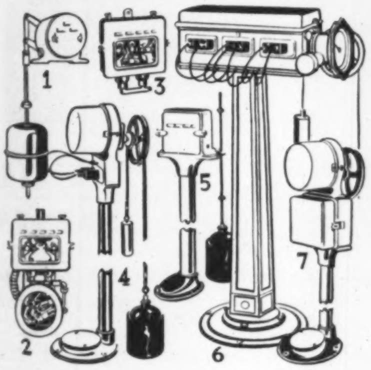


A Complete Line of PRESSURE and FLOAT ACTUATED CONTROLS



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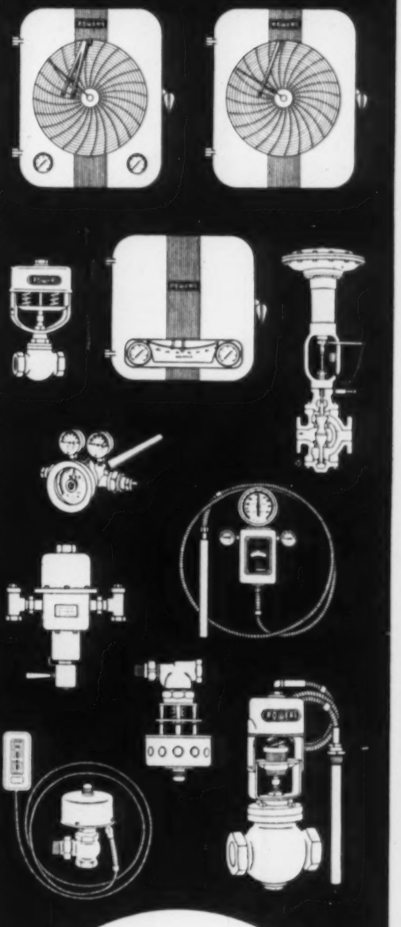

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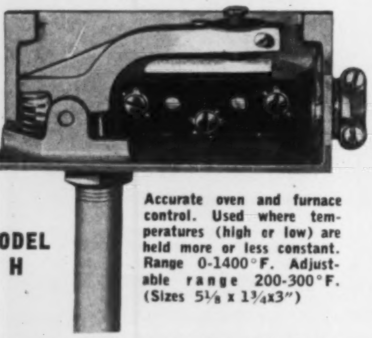

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Accurate oven and furnace control. Used where temperatures (high or low) are held more or less constant. Range 0-1400°F. Adjustable range 200-300°F. (Sizes 5⅛ x 1¾x3")

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- ✓ **Locking screw locks temperature setting**
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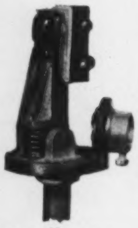

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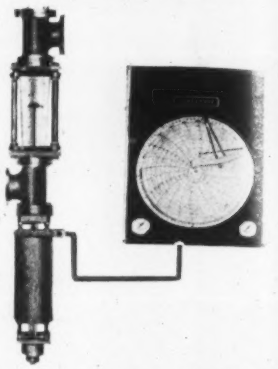

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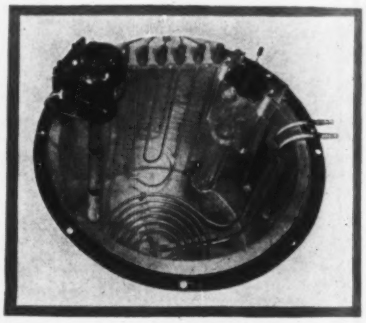

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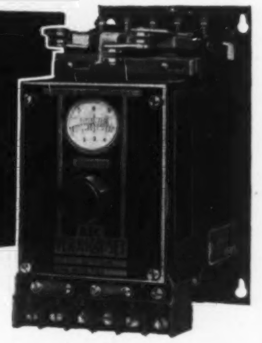
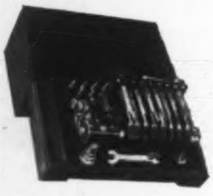
by atc



Right: Series 2800—"Vernier Set" Timer, for accurately controlling industrial operations on a timed stop-cycle basis.



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No motors, no depressor bars—no contacts

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For detailed information consult Sweet's Engineering Catalogs or request bulletin ● No. 105-A.

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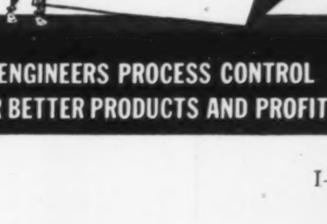

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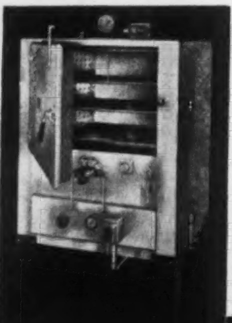

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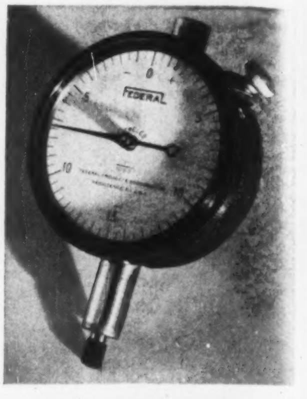

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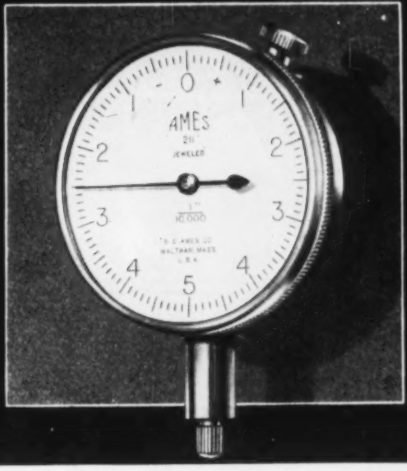

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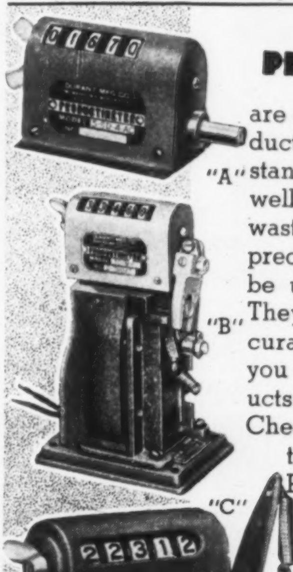

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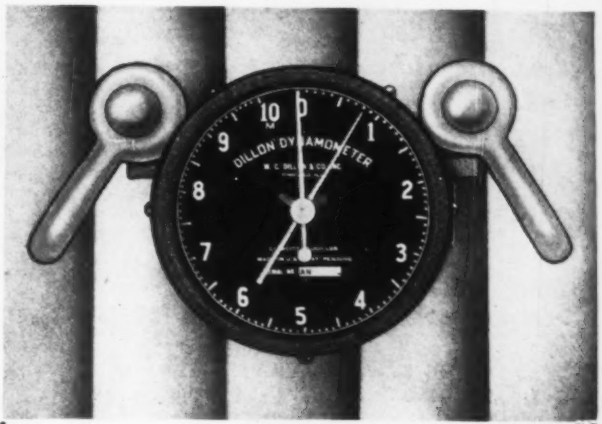

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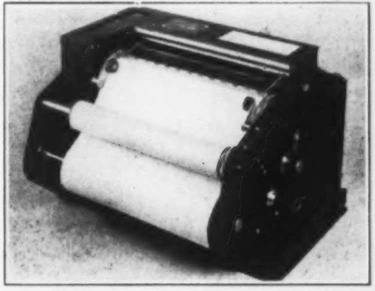

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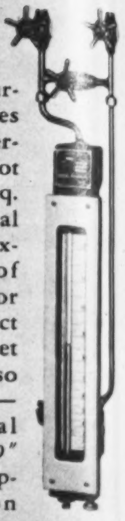
Goerz Amer. Optical Co.
Klett Mfg. Co.
Maxwell Smith Co.
Mico Instrument Co.
Pfaltz & Bauer, Inc.
Rubicon Co.
Testrite Instrument Co.
Triumph Mfg. Co.
United Cinephone Corp.
FINDERS, VALVE BOX
Geophysical Inst. Co.
FIRE CONTROL INSTRUMENTS, MILITARY & NAVAL
Buhl Optical
Elec. Indicator Co.
Fecker, J. W.
Kern Co.
Kollmorgen Optical Co.
Maxwell Smith Co.
Unertl Opt. Co.
United Cinephone Corp.
FIRING DISKS
Veritas Firing System
FLASH POINT TESTERS (See Testers, Flash Point)
FLASHERS, Neon Tube
Automatic Elec. Mfg. Co.
Bacharach Industrial Inst.
Betts & Betts
Paragon Electric Co.
Sangamo Electric Co.
FLATNESS TESTERS (See Testers, Flatness, Light Wave)
FLATS, OPTICAL
Am. Telescope Labs.
Baird Associates
Bausch & Lomb Optical
Buhl Optical
Clark & Sons
Ednal Co.
Fecker, J. W.
Ferner Co.
Fish-Schurman Co.
Fuess, Inc.
Gaertner Scientific Corp.
Goerz Amer. Optical Co.
Kollmorgen Optical Co.
Master Optical Co.
Mico Instrument Co.
Miller Corp., William
(Cont'd)

FLATS, OPTICAL (Cont'd)
Perkin-Elmer Corp.
Ruska & Co.
Scherr Co., Inc., **George**
Simpson Optical
Spencer Lens
Tinsley Laboratories
Unertl, John
Van Keuren Co.
Vard Inc.
Wilder, R. S.
Woermann-Schuchhardt
Zeiss, Inc., Carl
FLATS, OPTICAL, Fused Quartz
Bausch & Lomb Opt.
Thermal Syndicate Ltd.
FLIGHT TEST INSTRUMENTS
Gannon Co.
Globe Industries
Impact Register
Televiso Products

"FLOW"

(Flowmeters measure primarily RATE of flow. For positive or "quantity" fluid meters, see the numerous classes under "Meters")

FLOWMETERS, AIR (See Flowmeters, Gas)
FLOWMETERS, AREA Cone & Disk Type
Cochrane Corp.
Commercial Engg. Labs.
Fischer & Porter
Friez & Sons
National Meter Co.
FLOWMETERS, AREA Cylinder & Piston Type
American Inst. Co.
Bowser & Co.
Brown Inst. Co.
Fischer & Porter
National Meter Co.
New Jersey Meter Co.
FLOWMETERS, AREA Free Float Type
Am. Gas Furnace Co.
D'Este Co.
Fischer & Porter
Fish-Schurman Corp.
Hoke, Inc.
Schutte & Koerting Co.
FLOWMETERS, AREA Orifice & Plug Type
American Meter Co.
Bacharach Industrial Inst.
Brown Inst. Co.
Cochrane Corp.
Fischer & Porter
Mason-Neilan Regulator
Republic Flow Meters
Taylor Inst. Cos.
Trimount Instrument
FLOWMETERS, BLAST (See Flowmeters, Gas)
FLOWMETERS, GAS
Ace Glass, Inc.
American Gas Furnace
American Inst. Co.
American Meter Co.
Bacharach Industrial Inst.
Bailey Meter Co.
Bowser & Co.
Bristol Co.
Brown Inst. Co.
Builders-Providence
Clark Blast Meter
Cochrane Corp.
Commercial Engg. Labs.
D'Este Co.
Detroit Air Meter Co.
Eclipse Aviation
Elec. Indicator Corp.
Fischer & Porter
Fish-Schurman Co.
Foxboro Co.
Friez & Sons
Gas Appliance Specialties
Henszey Co.
Hoke, Inc.
Ill. Testing Labs.
International Filter Co.
Kollsman Inst. Co.
Lambert Meter Co.
Leeds & Northrup
Leupold, Volpel & Co.
Mason-Neilan Regulator
Meriam Co.
Morey & Jones, Ltd.
National Meter Co.
New Jersey Meter Co.
Pioneer Instrument
Republic Flow Meters
Ring Balance Co.
Schutte & Koerting Co.
Scientific Glass Apparatus
Selas Company
Simplex Valve & Meter
Superior Meter Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Trimount Instrument
Victor Equipment Co.
FLOWMETERS, LIQUID (See Flowmeters, Gas)
FLOWMETERS, Open-Stream
Bristol Co.
Builders-Providence
Cochrane Corp.
Leupold & Stevens
Mason-Neilan Regulator
Morey & Jones, Ltd.
Republic Flow Meters
Scientific Inst. Co. Calif.
Simplex Valve & Meter



FLOW METERS

● The Type H illustrated is an extremely accurate indicating instrument for measuring the flows of gases or liquids when operating pressures do not exceed 250 lbs. per sq. in. and the differential pressure does not exceed 160 inches of water pressure. Wall or Panel Mounting. Direct reading scales to meet any requirement. Also Inclined Tube types—for low differential ranges of 25" or 49" of water. Fully descriptive catalog sent on request.

THE MERIAM CO.
CLEVELAND, OHIO

Manometers, Meters, and Gauges for the accurate measurement of Pressures, Vacuums and Flows of Liquids and Gases.

FISCHER & PORTER
Stabl-Vis Rotameter

FOR VISCOUS FLUIDS

The calibration of this amazing new rotameter is independent of normal viscosity variations in the fluid for which it is calibrated.

It accurately measures flow rates of viscous fluids such as sulphuric acid, concentrated caustics, oils and organic solutions without use of complicated correction factors or automatic temperature controls.

Available in all materials, and types such as indicating, recording, controlling.

Send for Bulletin 80-A

FISCHER & PORTER CO.
23 COUNTY LINE ROAD
HATBORO PENNSYLVANIA

BUILDERS
Type N
REGISTER
INDICATOR
RECORDER

BUILDERS

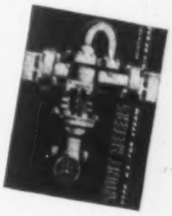
RECORDING·INDICATING·CONTROLLING

Instruments

For

METERING FLOW

Liquid Level - Weight



VENTURI

Builders Venturi Meter is equally respected in boiler rooms, water works, and sewage disposal plants everywhere. For the super-accuracy required by central stations, each Type M is adjusted to match exactly its University-calibrated Venturi Tube. Write for Bulletin 324.

SHUNT

Again and again, hundreds of firms have purchased Builders Shunt Meters to measure steam, air, or gas that they sell to customers or distribute to various departments. Low price and accuracy are but two of the many Type KS advantages. Write for Bulletin 307.

BUILDERS
Flowatch

CHRONOFLO

Builders Chronoflo Telemeter brings measurements of flow, level, pressure, temperature, and weight from any distance to centrally located indicating and recording instruments. The Chronoflo time impulse Meter has more than fulfilled its promise. Write for Bulletin 320.

FLO-WATCH

An attractive flow meter as accurate as it is good-looking. This recording, indicating, and totalizing meter is designed and priced to allow wide use throughout the plant. Equally serviceable with Venturi Tube, Flow Nozzle or Orifice Plate. Write for Bulletin 318A.

Sincerely Yours

BUILDERS-PROVIDENCE, INC. **44 CODDING ST., PROVIDENCE, R. I.**

PUBL. 3010
FLOW METERS
by
COCHRANE
Electric
High Torque
MECHANICAL
INAMETER
Ring Balance
Liquid Level
WEIR

... Send for your free copy of this 52-page Book!

COCHRANE CORPORATION · 3120 N. 17th St., PHILADELPHIA, PA.

SPECIAL TESTING INSTRUMENTS

for

AUTOMOTIVE AND AIRCRAFT INDUSTRIES

3. Fuel Flow Indicators:—
   b. Fluted Guide Flow Indicators:—
   for measuring the rate-of-flow of fuels for internal combustion engines.
   c. Calibrating Stands:—
   for calibrating rate-of-flow indicators.

COMMERCIAL ENGINEERING LABORATORIES

4612 Woodward Ave.
Detroit, Mich.

THE COX CALIBRATING STAND

BAILEY
Fluid Meters
For STEAM · LIQUIDS · GASES

● Bailey Fluid Meters are designed to indicate, record and integrate the flow of steam, liquids, or gases under practically any pressure or temperature condition.

A great variety of indicating, recording and integrating combinations are available for use with four distinct types of flow mechanisms.

This large variety of possible combinations enables the flow meter engineer to specify equipment which is pre-eminently suited to any flow measuring application.

When it is desired to place indicators, recorders and integrators at a considerable distance from the primary element, Bailey Synchro-Meters are available to provide electric transmission.

For detailed information consult Sweet's Engineering Catalogs or request a copy of bulletin No. 301.

BAILEY METER COMPANY
1041 IVANHOE ROAD · CLEVELAND, O.
Bailey Meter Company Ltd. Montreal, Canada

MJL
FEATURES
BELLOWS ACTUATED
FLOWMETERS
and
LIQUID LEVEL
GAUGES
of the
DIFFERENTIAL
PRESSURE TYPE

Other Instruments Manufactured Include

THE NOZZLE PRESSURATER
FOR FIRE ENGINES

MANOMETERS
HIGH PRES. TYPE

Write for Details

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FLOWMETERS, Orifice, and Nozzle
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American Meter Co.
Askania Regulator Co.
Bacharach Industrial Inst.
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Builders-Providence
Cochrane Corp.
Commercial Engg. Labs.
Corning Glass Works
Elmer & Amend
Fischer & Porter
Foxboro Co.
Hoke, Inc.
Lambert Meter Co., Inc.
Leeds & Northrup Co.
Leupold & Stevens
Mason-Neilan Regulator
Meriam Co.
Moore Products
Morey & Jones, Ltd.
Permutit Co.
Pgh. Equitable Meter
Republic Flow Meters
Ring Balance Co.
Ruska & Co., Inc.
Scientific Glass Apparatus
Scientific Inst. Co.
Simplex Valve & Meter
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Trimount Instrument

FLOWMETERS, Pitot Tube
Am. Blower Corp.
American Meter Co.
Askania Regulator Co.
Bacharach Industrial Inst.
Bailey Meter Co.
Bristol Co.
Cambridge Inst. Co.
Central Scientific Co.
Cochrane Corp.
Defender Automatic Reg.
Detroit Air Meter Co.
Foxboro Co.
Friez & Sons
Fuess, Inc.
Kollsman Inst. Co.
Leupold & Stevens
Meriam Co.
Morey & Jones, Ltd.
Pitometer Log Corp.
Precision Therm. & Inst.
Refinery Supply Co.
Republic Flow Meters
Ring Balance Co.
Simplex Valve & Meter
Taylor Inst. Cos.
Trimount Instrument

FLOWMETERS, Steam
Am. Dist. Steam Co.
American Meter Co.
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Builders-Providence
Cochrane Corp.
Fischer & Porter
Foxboro Co.
Leeds & Northrup Co.
Mason-Neilan Regulator
Meriam Co.
Morey & Jones, Ltd.
Republic Flow Meters
Ring Balance Co.
Simplex Valve & Meter
Tagliabue Mfg. Co.
Taylor Inst. Cos.

FLOWMETERS, Vane
Autocall Co.
Detroit Air Meter Co.
Friez & Sons
Ill. Testing Labs.
Mason-Neilan Regulator
Simplex Valve & Meter

FLOWMETERS, Venturi Type
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Builders-Providence
Cochrane Corp.
Foxboro Co.
International Filter Co.
Leeds & Northrup
Leupold & Stevens
Mason-Neilan Regulator
Morey & Jones, Ltd.
Republic Flow Meters
Ring Balance Co.
Simplex Valve & Meter
Taylor Inst. Cos.

FLOWMETERS, Weir
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Builders-Providence
Cochrane Corp.
Elec. Indicator Corp.
Foxboro Co.
Gurley, W. & L. E.
Leupold & Stevens
Mason-Neilan Regulator
Morey & Jones, Ltd.
Simplex Valve & Meter
Taylor Inst. Cos.

FLUE GAS ANALYZERS (See Gas Analyzers, Flue Gas)

FLUID METERS, GAS (See Gas Meters)

FLUID METERS, LIQUID (See Meters, Liquid)

FLUID METERS, QUANTITY (See Gas Meters; Meters, Current; Meters, Liquid)

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Central Scientific Co.
Pfaltz & Bauer, Inc.
Patterson Screen Co.
Laboratory Specialties

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Ultra-Violet Products

FLUORESCENT PAINT APPLIED
Canadian Radium
General Luminescent

FLUORESCENT MERCURY VAPOR TUBES EMITTING WHITE LIGHT (See Light Sources)

FLUOROSCOPES
General Electric X-Ray
Patterson Screen Co.
Westinghouse X-Ray Co.

FLUXMETERS
Annis Co.
Cambridge Inst. Co.
Central Scientific Co.
General Elec. Co.
Leeds & Northrup Co.
Rawson Electrical Inst.
Rubicon Co.
Sensitive Research Inst.

FOLDING ENDURANCE TESTERS (PAPER) (See Testers, Folding Endurance)

FOOT BLOCKS
Ford Motor Co.

FOOT CANDLE METERS
Central Scientific Co.
De Jur-Amsco Corp.
General Elec. Co.
G-M Labs.
Pfaltz & Bauer, Inc.
Photovolt Corp.
United Cinephone Corp.
Weston Elec. Inst. Corp.

FOREWARN DETECTOR, for locating hidden weapons (See Detectors, Metal)

FORKS, Synchronization
Elec. Tachometer Corp.
Gaertner Scientific Corp.
Riverbank Laboratories

FORKS, Tuning
Clay-Adams Co.
Hathaway Instrument

FORKS, Tuning, Electrically Driven
American Inst. Co.
Cambridge Inst. Co.
Central Scientific Co.
Chicago Apparatus Co.
Elec. Tachometer Corp.
Engineering Labs., Inc.
Gaertner Scientific Corp.
General Radio Co.
Hathaway Inst. Co.
Metron Instrument
Riverbank Laboratories
Welch Mfg. Co.

FORKS, Vacuum Driven
Cambridge Inst. Co.
Gaertner Scientific Corp.
Riverbank Laboratories

FRACTIONAL HORSEPOWER MOTORS (See Motors, Fractional Horsepower)

FREENESS TESTERS (See Testers, Freeness)

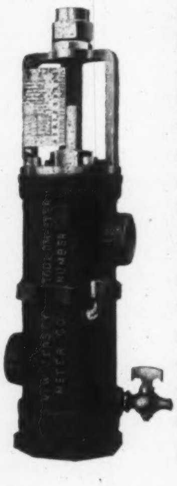
FREQUENCY METERS, Controlling
Doolittle Radio
General Elec. Co.
Leeds & Northrup Co.

FREQUENCY Meters, Electronic
De Jur-Amsco Corp.
General Radio Co.
Lavoie Laboratories
Metron Instrument
RCA Manufacturing Co.

FREQUENCY METERS, Indicating
General Elec. Co.
General Radio Co.
Hathaway Instrument
Hickok Elec. Inst. Co.
J-B-T Instruments
Leeds & Northrup Co.
Metron Instrument
RCA Manufacturing Co.
Roller-Smith Co.
Sensitive Research Inst.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.

FREQUENCY METERS, Recording
Bristol Co.
Esterline-Angus Co.
General Elec. Co.
Leeds & Northrup Co.
Metron Instrument
Roller-Smith Co.
Warren Telechron Co.
Westinghouse Elec. & Mfg.

New Jersey Air Meters
TOOL-OM-ETER and
DRILL-OM-ETER

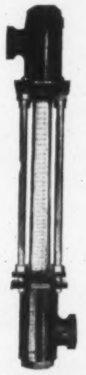


Measure the flow of Compressed Air to any process or tool. Guide the maintenance of pneumatic equipment in effective working condition.

These meters are of the constant head, variable orifice type, simple, reliable, portable, only one moving part. Used on air and other gases at 1-300 lb.

New Jersey Meter Co.
PLAINFIELD, N. J.

FISCHER & PORTER
Stabl-Vis Rotameter



FOR VISCOUS FLUIDS

The calibration of this amazing new rotameter is independent of normal viscosity variations in the fluid for which it is calibrated.

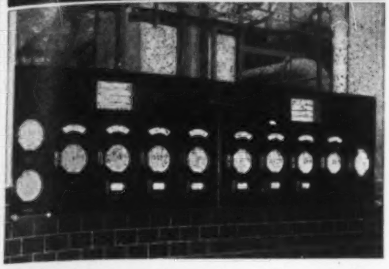
It accurately measures flow rates of viscous fluids such as sulphuric acid, concentrated caustics, oils and organic solutions without use of complicated correction factors or automatic temperature controls.

Available in all materials, and types such as indicating, recording, controlling.

Send for Bulletin 80-A

FISCHER & PORTER CO.
23 COUNTY LINE ROAD
HATBORO PENNSYLVANIA

FLOW METERS



For Measuring the Flow of Steam-Water-Gas-Air-Oil

WORKING PRESSURES
Republic meters are available for all working pressures up to 5000 lb. per sq. in.

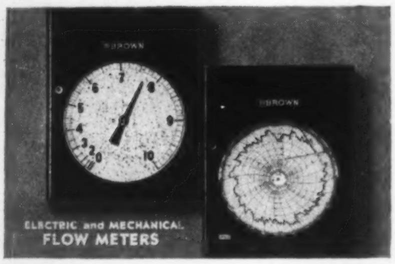
RANGE EASILY CHANGED
The range of a Republic meter can be easily and quickly changed by merely changing the range tube.

READING INSTRUMENTS
The Republic indicator, recorder and integrator operate independently of each other and can be supplied separately or in combination. They are remote reading.

EASILY READ
The indicator scale and the recorder chart all have uniform graduations and are direct reading. The integrator has a large cyclometer type dial.

WRITE FOR DATA BOOK No. 701

REPUBLIC FLOW METERS CO.
2249 DIVERSEY PKWY., CHICAGO, ILLINOIS



For Controlling, Recording, Totalizing and Indicating the Flow of Fluids such as Steam, Water, Gas, Oil, etc.

Brown Flow Meters are available in two types, the Electric type and Mechanical type.

ELECTRIC TYPE: Complete equipment consists of three units, the orifice plate, manometer and instrument. Instrument can be located at a remote point from the orifice and manometer (point of flow measurement).

Because of this flexibility, it is particularly adaptable for applications where instruments are to be remotely located. Write for Catalog.

MECHANICAL TYPE: Complete equipment consists of two units, the orifice plate and the instrument. The meter body is integral with the instrument. Readings are transmitted mechanically from meter body to instrument. Write for Catalog.

THE BROWN INSTRUMENT COMPANY, *a division of Minneapolis-Honeywell Regulator Co.*, 4482 Wayne Avenue, Philadelphia, Pa.

BROWN FLOW METERS
AND
MINNEAPOLIS-HONEYWELL CONTROL SYSTEMS
To Measure and Control is to Economize

FREQUENCY METERS, Standards
- **Bliley Electric Co.**
- Doolittle Radio
- **Ferris Inst. Corp.**
- Hathaway Instrument
- **Millen Mfg. Co.**
- **RCA Manufacturing Co.**

FREQUENCY METERS, Vibrating Reed
- Biddle Co., Jas. G.
- J-B-T Insts., Inc.

FREQUENCY RESPONSE RECORDERS, Automatic
- **Sound Apparatus Co.**

FRITTED GLASS FILTERS & APPARATUS
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- **Fischer & Porter**
- **Fish-Schurman Co.**
- Pfaltz & Bauer, Inc

FUEL ANALYSIS APPARATUS
- **Burrell Tech. Supply**
- Central Scientific Co
- **Elmer & Amend**
- Machlett & Son
- Parr Instrument Co.
- **Precision Scientific Co.**
- Sargent & Co.
- **Tagliabue Mfg. Co.**

FUEL FLOW INDICATORS
- **Askania Regulator Co.**
- Autocall Co.
- **Bailey Meter Co.**
- **Bristol Co.**
- **Brown Inst. Co.**
- **Commercial Eng. Labs.**
- Eclipse Aviation
- **Fischer & Porter**
- **Foxboro Co.**
- **Mason-Neilan Regulator**
- National Airoil Burner
- Pioneer Instrument
- **Tagliabue Mfg. Co.**
- **Taylor Inst. Cos.**
- Technicraft Indicators
- Victor Equipment Co.

FURNACE CONTROL SYSTEMS (See Controllers, Automatic)

FURNACES, LABORATORY, HIGH TEMPERATURE
- American Instrument Co.
- **Gordon Co., Claud S.**
- Johnson Gas Appliance
- Laboratory Equipment
- **Machlett & Son**
- National Airoil
- Schaar & Co.
- Selas Co.
- Shallcross Controls

A New Idea In
VIBRATING REED FREQUENCY METERS

Model 30-F
for flush panel mounting

Model 60-FP
a portable type for testing

JBT
FREQUENCY

Model 51-F
for front-of-panel mounting

A series of new and improved vibrating reed frequency meters. Eight standard models – special reed combinations and case styles on order. Full or half cycle increments. Ranges 20 to 425 cycles. Unaffected by wave form, average temperature changes, and external magnetic fields. Accurate – strong – and may be read at a glance. Sensitivity is preset during manufacture – no manual adjustments necessary. Effects of panel vibration minimized because each reed is individually mounted and electrically activated. Licensed under Triplett Patents Pending. Write for Bulletin VF-42.

J-B-T *Products*

Vibrating Reed Frequency Meters . . . Pyrometers . . . Potentiometer-Pyrometers . . . Resistance Thermometers . . . Thermocouples and Thermocouple Leads . . . Electric Tachometers . . . Galvanometers . . . Selector Switches and other Electrical Instruments and Testing Equipment.

J-B-T INSTRUMENTS, INC.
441-I Chapel Street, New Haven, Conn.

A
LUBRICATED
SLIDING
CONTACT

4 SIZES
AND
76 RATINGS

"FRAHM" VIBRATING REED FREQUENCY METERS

For dependable indication of power frequencies. Unaffected by wave form or by ordinary voltage and temperature changes. No pivots, jewels or rotating parts. Available in switchboard miniature and wide-range portable types. Various ranges between 15 and 500 cycles per second. Write for Bulletin 1695-I.

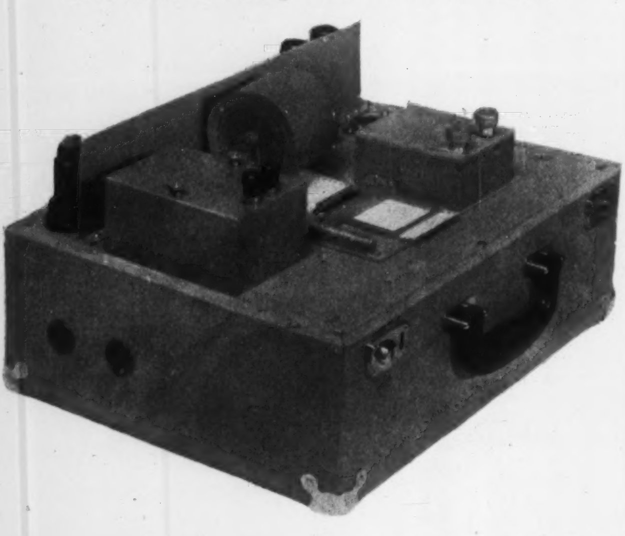
JAGABI "LUBRI-TACT" RHEOSTATS

For precise manual control of electric current. The "Lubri-tact" feature is a lubricated sliding contact, giving smooth adjustment and long life. A full range of instruments in a variety of types is usually carried in stock. Also compression type carbon Rheostats for smooth control of heavy currents. Write for Bulletin 1620-I.

James G. Biddle Co.
1211-13 ARCH STREET *Electrical and Scientific Instruments* PHILADELPHIA, PA.

AUTOMATIC HIGH SPEED POWER LEVEL RECORDER MODEL PL

The Fastest Recording Instrument on the Market

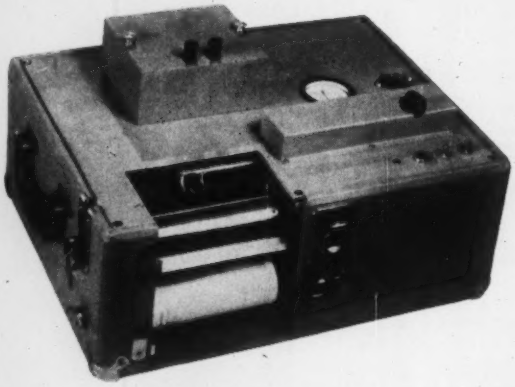


Designed especially for acoustical measurements such as reverberation time, sound decay, sound absorption, but also ideal for vibration and noise measurements. Also applicable to current and voltage measurements.

The recording is on a 2" chart and can be made either on a logarithmic (db) or linear (current/voltage), or on a loudness (phon) scale. Two writing and two chart speeds.

Write for descriptive bulletin.

AUTOMATIC FREQUENCY RESPONSE RECORDER MODEL FR



For drawing automatically and accurately the frequency characteristic of any audio apparatus or complete installation.

4" chart; ink-writing. Applicable to voltage and current measurements, sound intensity, vibration, etc.

Full technical data given in our bulletin "Sound Advances."

SOUND APPARATUS COMPANY

150 WEST 46 STREET NEW YORK, N. Y.

Specialists in Designing and Manufacturing of Graphic Recording Instruments

FURNITURE, LABORATORY
- Hamilton Mfg. Co.
- **Kewaunee Mfg. Co.**
- Kimball Co., W. W.
- Laboratory Const. Co.
- Laboratory Furniture Co.
- Moline Furniture Works
- Sheldon & Co.
- Sjostrom Co.
- Southern Desk Co.
- **Welch Mfg. Co.**

FUSES, INSTRUMENT
- Littelfuse Labs.
- Meter Devices Co.

GAGE BLOCKS
- **Ford Motor Co.**
- Illinois Tool Works
- Pratt & Whitney
- Savage Tool Co.
- Scherr Co., George
- Standard Gage Co.
- **Van Keuren Co.**

GAGE GLASS ILLUMINATORS
- Wright-Austin Co.

GAGE TESTERS, Dead-weight
- **American Inst. Co.**
- **Amthor Testing Inst. Co.**
- **Ashton Valve Co.**
- Crosby Steam Gage Co.
- **Grove Regulator**
- Manning, Maxwell & Moore
- **Olsen Testing Machine**
- Pioneer Instrument
- **Refinery Supply Co.**
- Star Brass Mfg. Co.

GAGE TESTERS, Fluid-scale
- Crosby Steam Gage Co.

GAGE TESTERS, Liquid-column
- Manning, Maxwell & Moore
- Pioneer Instrument

GAGES (See also object of Measurement and control)

GAGES, Absolute Pressure
- **Bailey Meter Co.**
- **Bristol Co.**
- **Brown Inst. Co.**
- Clapp Instrument
- **Foxboro Co.**
- **Kollsman Inst. Co.**
- Manning, Maxwell & Moore
- **Mason-Neilan Regulator**
- **Moeller Instrument Co.**
- Pioneer Instrument
- **Precision Therm.**
- Scientific Inst. Co.
- **Tagliabue Mfg. Co.**
- **Taylor Inst. Cos.**
- **Uehling Instrument Co.**
- **United States Gauge Co.**
- Victor Equipment Co.

GAGES, Adjustable Length
- Scherr Co., George
- Vinco Corp.

GAGES, Air
- **Ashton Valve Co.**
- **Bailey Meter Co.**
- Bastian-Blessing Co.
- **Bristol Co.**
- Clapp Instrument
- Detroit Air Meter Co.
- Electric Auto-Lite
- **Foxboro Co.**
- **Friez & Sons**
- Lambert Meter Co., Inc.
- Manning, Maxwell & Moore
- **Marsh Corp.**
- **Mason-Neilan Regulator**
- Rochester Mfg. Co.
- Sheffield Corp.
- Star Brass Mfg.
- **Tagliabue Mfg. Co.**
- Trerice Co.
- **Uehling Inst. Co.**
- **U. S. Gage Co.**
- Victor Equipment Co.

GAGES, Alarm
- **Ashton Valve Co.**
- **Bailey Meter Co.**
- **Bristol Co.**
- **Foxboro Co.**
- Manning, Maxwell & Moore
- **Marsh Corp.**
- **Mason-Neilan Regulator**
- Precision Therm. & Inst.
- Star Brass Mfg.
- Trerice Co.
- **U. S. Gage Co.**
- **Wheelco Instruments**

GAGES, Amplifying
- Coats Mach. Tool Co.
- Comtor Co.
- **Federal Prod. Corp.**
- Precision Gage & Tool
- Saxl Instr. Co.
- Sheffield Corp.
- United Cinephone Corp.

GAGES, Automatic Sorting
- Electric Sorting Machine
- Hathaway Instrument
- Heyman Co.
- Instrument Specialties Co
- Rowe Radio Research

GAGES, Bore
- Brown & Sharpe
- Comtor Co.
- **Federal Prod. Corp.**
- Gauthier, Donat
- **Poole Manufacturing**
- Pratt & Whitney
- Scherr Co.
- Sheffield Corp.

GAGES, Bourdon
- Ashton Valve Co.
- **Bailey Meter Co.**
- Baldwin-Southwark Corp.
- Bastian-Blessing Co.
- Belfield Co.
- **Bristol Co.**
- **Brown Inst. Co.**
- Clapp Instrument
- Crosby Steam Gage
- Dickson Co.
- Electric Auto-Lite
- **Foxboro Co.**
- **Hays Corp.**
- **Heise Bourdon Tube**
- **Hoke, Inc.**
- Improved Gauge Mfg.
- Manning, Maxwell & Moore
- **Marsh Corp.**
- **Mason-Neilan Regulator**
- Mercoid Corp.
- Pioneer Instrument
- Republic Flow Meters
- Star Brass Mfg. Co.
- **Tagliabue Mfg. Co.**
- **Taylor Inst. Cos.**
- Trerice Co.
- **United States Gauge Co**

GAGES, Caliper (Dial)
- Brown & Sharpe
- **Federal Prod. Corp.**
- Glogau & Co.
- Starrett Co.

GAGES, Center
- Lufkin Rule Co.
- Millers Falls Co.
- Starrett Co.
- Union Tool Co.

GAGES, Comparator
- Ames Co., B. C.
- Coats Mach. Tool Co.
- Comtor Co.
- **Federal Prod. Corp.**
- Gauthier, Donat
- General Engg. & Model
- Hathaway Instrument
- Instrument Specialties Co.
- Jones & Lamson Machine
- Metron Instrument
- Moore Products
- Pratt & Whitney
- Precision Gage & Tool
- Saxl Inst. Co
- Scherr Co.
- Sheffield Corp.
- United Cinephone Corp.
- Vard, Inc.

GAGES, Compression
- Bacharach Indus. Inst.
- Baldwin Southwark
- G. M. Co. Mfg.
- **Riehle Div.**
- Saxl Inst. Co.
- Toledo Scale Co.
- **United States Gauge Co.**

GAGES, Continuous Thickness
- Pratt & Whitney
- **Televiso Products**
- Saxl Instrument
- Vinco Corp.

GAGES, Continuous Width
- Vinco Corp.

GAGES, Contour see **Gages, Profile**

GAGES, Cylinder
- Ames Co., B. C.
- Coats Mach. Tool
- Comtor Co.
- **Federal Prod. Corp.**
- Lufkin Rule Co.
- Pratt & Whitney
- Sheffield Corp.
- Starrett Co.
- United Cinephone
- Victor Equipment

GAGES, Dead Weight
- American Instrument
- Eastern Specialty
- **Grove Regulator**
- Manning, Maxwell & Moore

GAGES, Depth, Linear
- Ames Co., B. C.
- Brown & Sharpe
- Glogau & Co.
- **Instrument Specialties**
- Lincoln Park Tool & Gage
- Lufkin Rule Co.
- Park **Sales**
- Pratt & Whitney
- R & M Mfg. Co.
- Ryan Tool & Engg.
- Sheffield Corp.
- Starrett Co.
- Union Tool Co.

GAGES, Depth, Navigational
- **Geophysical Inst. Co.**

GAGES, Dial, Machinists'
- **Ames Co., B. C.**
- Brown & Sharpe
- Chicago Dial Ind.
- **Federal Prod. Corp.**
- **Ferner Co.**
- **Genales, Andrew**
- General Engg & Model
- Randall, Frank E.
- Starrett Co.
- Waltham Dial Gage

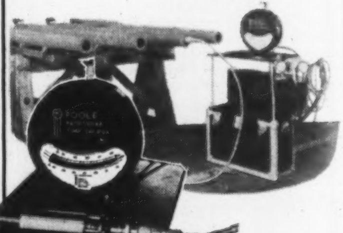
GAGES, Differential Pressure
- **American Meter Co.**
- Bacharach Industrial Inst.
- **Bailey Meter Co.**
- Boiler Room Equip.
- **Bristol Co.**
- **Brown Inst. Co.**

(Cont'd)

POOLE REMOTOMIKE—
PATENT PENDING

A REMOTE READING
ELECTRO-PNEUMATIC
INSIDE MICROMETER

FOR ORDNANCE
MEASUREMENT



WRITE FOR BULLETIN NO. 270 2

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ENGINEERS
DALLAS, TEXAS

DON'T LET FAULTY DRAFT

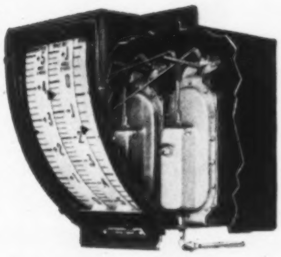
RUN-UP STEAM COSTS

MAINTAINING PROPER DRAFT is relatively a simple job once a Hays Draft Gage has been installed. Accurate measurements supplant guesswork, resulting in more efficient combustion.

HAYS ORIGINATED and perfected the dry or diaphragm type of draft gage and today Hays Draft Gages are standard equipment in thousands of the nation's boiler rooms.

HAYS DRAFT GAGES are offered in a wide variety of types from the V-type, illustrated above, to recording gage. Send for our catalog today. Write to 925 Eighth Avenue, Michigan City, Indiana.

THE HAYS CORPORATION
MICHIGAN CITY, INDIANA, U.S.A.



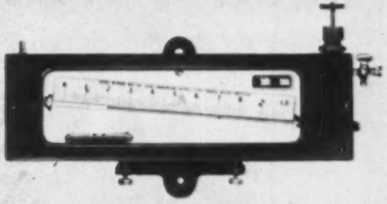
BAILEY MULTI-POINTER GAGES

● Bailey Multi-Pointer Gages are made with any number of pointers and any scale combination from one to twelve. The pointers have 10" motion over plainly marked plastic molded scales so that readings can be taken at a distance of 20 feet. Diaphragm actuated elements enable this gage to withstand over-drafts and over-pressures without injury to the unit or its calibration.

All secondary factors such as draft, pressure, temperature, stoker speed and pulverizer feed can be indicated on one Bailey Multi-Pointer Gage.

BAILEY METER COMPANY
1041 IVANHOE ROAD · CLEVELAND, O.
Bailey Meter Company Ltd., Montreal, Canada

DRAFT GAUGES



● These are extremely serviceable direct reading instruments for measuring low pressures, drafts and differentials—built with inclined tubes to give increased scale length and permit the taking of readings in fractional inches of water. Each instrument individually calibrated to assure extremely accurate operation. Oil or mercury filled tubes. Also two-tube and three-tube models for taking multiple readings with the same gauge. Fully descriptive catalog sent on request.

THE MERIAM CO.
CLEVELAND, OHIO

Manometers, Meters, and Gauges for the accurate measurement of Pressures, Vacuums and Flows of Liquids and Gases.

VACUUM EQUIPMENT

PUMPS GAUGES FLUIDS

Ionization Gauge Type HG-200

This instrument is capable of reading pressures from 10^{-3} to 10^{-9} mm. of Hg.

YOU ARE INVITED to write for complete details of:

Oil Diffusion Pumps of high speed design capable of producing vacua of 10^{-3} to 10^{-8} mm. of mercury.

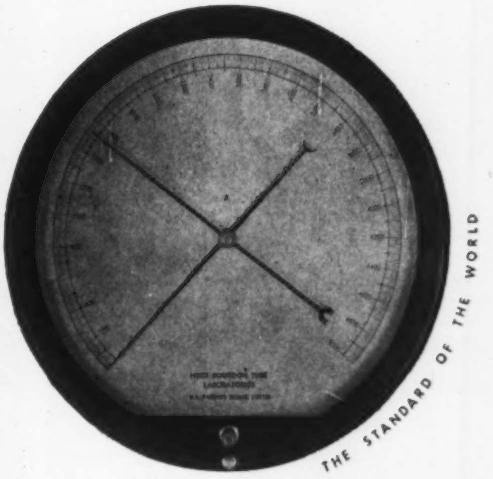
Ionization Gauges ideally suited to measure these high vacua.

Pirani Gauges primarily for testing and for measurements of fore pressure.

Pumps Fluids of extremely low vapor pressure and of rugged stability.

Vacuum Greases of unexcelled purity both for rubber gaskets and stopcocks.

DISTILLATION PRODUCTS, INC.
ROCHESTER, N. Y.



EVERY DAY we are shipping these precision pressure gauges to be used in place of dead weight testers. They are accurate, dependable and easy to read. Delivery—2 to 6 weeks.

RANGE FROM 0-60 lbs. to 0-10,000 lbs

12" Dial	144.00
16" Dial	176.00

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BROOK ROAD NEWTOWN, CONNECTICUT
IN COLLABORATION WITH THE A. H. EMERY COMPANY

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HERKIMER TOOL & MODEL WORKS PATENTED IN U.S.A

A New, Simplified Gauging Method

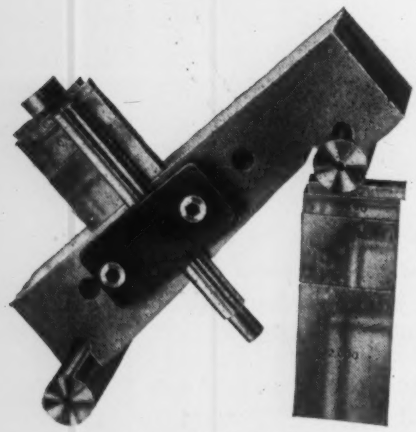
Reduces bevel gear gauging to the simplest and most accurate form.

No difficult computations or operations.

Checks dimensional accuracy of addendum cone (gear face) as related to thrust face of hub.

Checks accuracy of cone angle.

Checks run-out of gear face.



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GAGES, Differential Pressure (Cont'd)
Builders-Providence
Crosby Steam Gage
Defender Automatic Reg.
Detroit Air Meter Co.
Dwyer Mfg. Co.
Ellison Draft Gage Co.
Foxboro Co.
Friez & Sons
Fuess, Inc.
Gas Appliance Specialties
Hays Corp.
Kollsman Instrument
Lambert Meter Co.
Leupold & Stevens
Manning, Maxwell & Moore
Mason-Neilan Regulator
Meriam Co.
Metron Instrument
Moeller Instrument
Moore Products Co.
Morey & Jones, Ltd.
Pioneer Instrument
Pitometer Log Corp.
Precision Scientific
Precision Therm.
Preferred Utilities Mfg.
Republic Flow Meters
Scientific Glass Apparatus
Scientific Inst. Co.
Simplex Valve & Meter
Tagliabue Mfg. Co.
Taylor Inst. Co.
Trimount Instrument
Uehling Instrument Co.
U. S. Gauge Co.

GAGES, Draft (See Gages, Differential Pressure)

GAGES, Drill Grinding
Lufkin Rule Co.
Morse Twist Drill
Starrett Co.

GAGES, Feeler
Improved Gauge Mfg.
Lufkin Rule Co.
Millers Falls Co.
Starrett Co.
Union Tool Co.
Van Keuren Co.

GAGES, Flush Pin
Vinco Corp.
Lawrence & Hill

GAGES, Gas
Abercrombie Pump Co.
American Meter Co.
Bailey Meter Co.
Bastian-Blessing
Bristol Co.
Connelly Iron Sponge
Detroit Air Meter
Dickson Co.
Foxboro Co.
Gas Appliance Specialties
Lambert Meter Co.
Mason-Neilan Regulator
Rochester Mfg. Co.
Specialty Glass Co.
Superior Meter Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Victor Equipment

GAGES, Grinding
Ames Co., B. C.
Brown & Sharpe
Comtor Co.
Federal Prod. Corp.
Lufkin Rule Co.
Moore Products
Sheffield Corp.

GAGES, Height
Brown & Sharpe
Ford Motor Co.
General Engg. & Model
Lufkin Rule Co.
Ryan Tool & Engg.
Scherr Co.
Sheffield Corp.
Starrett Co.

GAGES, Hook
Gurley, W. & L. E.
Leupold & Stevens
Scientific Inst. (Calif.)
White Co. Inc.

GAGES, Hydrostatic (See Gages, Liquid Level, Indicating)

GAGES, Internal Dial
Coats Mach. Tool
Comtor Co.
Federal Prod. Corp.
Gen. Engg. & Model Wks.
Scherr Co.

GAGES, Limit
Ford Motor Co.
General Elec. Co.
Gen. Engg. & Model Wks.
Greenfield Tap & Die
Metron Instrument
M-G Gage Corp.
Pratt & Whitney
Sheffield Corp.
United Cinephone
Van Keuren Co.

GAGES, Liquid Level, Indicating
American Meter Co.
Anderson Co.
Ashton Valve Co.
Autocall Co.
Bacharach Industrial Inst.
Bailey Meter Co.
Bastian-Blessing
Belfield Co.
Bin-Dicator Co.
Boston Auto Gage
Bowser & Co.
Bristol Co.
Brown Inst. Co.
Builders-Providence
Burt Scientific Labs.
Certified Gauge
Clapp Instrument
Cochrane Corp.
Crosby Steam Gage
Davis Reg. Co.
Defender Automatic Reg.
Dickson Co.
Electric Auto-Lite
Elec. Indicator Corp.
Elec. Tachometer Corp.
Fisher Governor Co.
Foxboro Co.
Frick Co.
General Controls Co.
General Elec. Co.
Gurley, W. & L. E.
Hanlon-Waters, Inc.
Infilco, Inc.
Jerguson Gage Co.
Kellogg Switchboard
King Engineering
Klingerit, Inc.
Leeds & Northrup Co.
Leupold & Stevens
Liquidometer Co.
Lumenite Elec. Co.
Manning, Maxwell & Moore
Marsh Corp.
Mason-Neilan Regulator
McAlear Mfg. Co.
McNeill Engr. Equip.
Meriam Co.
Moore Products
Morey & Jones, Ltd.
Nathan Mfg. Co.
Natural Gas Equipment
Paragon Electric
Penberthy Injector Co.
Petrometer Corp.
Pioneer Instrument Co.
Pneumercator Co., Inc.
Precision Therm.
Preferred Utilities Mfg.
Reliance Gauge Column
Republic Flow Meters
Rochester Mfg. Co.
Schutte & Koerting Co.
Simplex Valve & Meter
Star Brass Mfg.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Trimount Instrument
Uehling Instrument Co.
U. S. Gauge Co.
Vapor Recovery Systems
Wallace & Tiernan
Westinghouse Elec. & Mfg.
Wheelco Inst. Co.
Williams Gauge Co.
Wright-Austin Co.
Yarnell-Waring Co.

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We maintain a staff of technical experts whose production experience has involved uses and applications of fluorescent compounds on all types of materials. With a broad background of chemical and illumination engineering and design, no modern manufacturing methods and techniques are unfamiliar to our technical staff. Their experience and scientific ability is yours to apply to your application problems.

GENERAL LUMINESCENT CORPORATION
638 Federal St., Chicago, Ill.

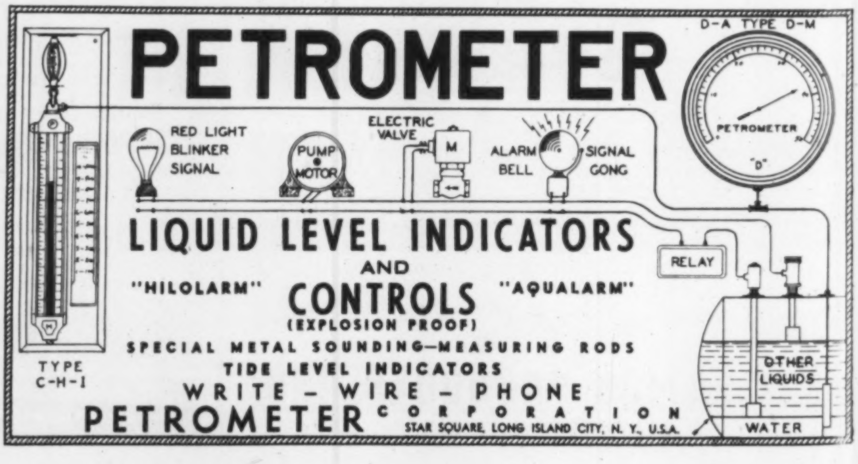
GAGES, Liquid Level, Recording (See Gages, Liquid Level, Indicating)

GAGES, Loss of Head
Bailey Meter Co.
Bristol Co.
Builders-Providence
Foxboro Co.
International Filter Co.
Morey & Jones, Ltd.
Taylor Inst. Cos.

GAGES, Mercury
Amthor Testing Mach.
Bacharach Industrial Inst.
Bailey Meter Co.
Builders-Providence
Central Scientific
Connelly Iron Sponge
Defender Automatic Reg.
Dubrovin, John
Dwyer Mfg. Co.
Elmer & Amend
Gas Appliance Specialties
Heise Bourdon Tube
King Engineering
Machlett & Son
Manning, Maxwell & Moore
Mason-Neilan Regulator
Meriam Co.
Moeller Instrument
Morey & Jones
Precision Therm.
Refinery Supply Co.
Scientific Glass Apparatus
Simplex Valve & Meter
Specialty Glass Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Trerice Co.
Trimount Instrument
Uehling Instrument Co.

GAGES, Micrometer
Ames Co., B. C.
Amthor Testing Mach.
Brown & Sharpe
Central Scientific Co.
Coats Mach. Tool Co.
Gaertner Scientific Corp.
Haines Gauge Co.
Instrument Specialties Co.
Lufkin Rule Co.
Millers Falls Co.
Precision Therm. & Inst.
Scherr Co.
Van Keuren Co.
Zeiss, Inc., Carl

GAGES, Oil (See Gages, Liquid Level)



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LIQUID LEVEL INDICATORS
AND
"HILOLARM" CONTROLS "AQUALARM"
(EXPLOSION PROOF)
SPECIAL METAL SOUNDING—MEASURING RODS
TIDE LEVEL INDICATORS
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STAR SQUARE, LONG ISLAND CITY, N. Y., U.S.A.

- **GAGES, Optical**
  - **Bausch & Lomb**
  - Chicago Dial Ind. Co.
  - Clark & Sons
  - **Fecker, J. W.**
  - Gaertner **Scientific Corp.**
  - **Jarrell-Ash Co.**
  - Jones & Lamson Machine
  - Ruska & Co.
  - Scherr Co.
  - United Cinephone Corp.
  - Zeiss, Inc., Carl
- **GAGES, Paint Film**
  - **General Elec. Co.**
  - Hathaway Inst. Co.
  - **Instrument Specialties Co.**
  - Metron Instrument
  - Munsell Color Co.
  - Saxl Inst. Co.
- **GAGES, Paper Thickness (See Gages, Thickness)**
- **GAGES, Piston Ring**
  - Littelfuse Inc.
  - Wilkening Mfg. Co.
- **GAGES, Pitch Diameter**
  - Brown & Sharpe
  - **Federal Prod. Corp.**
  - Greenfield Tap & Die
  - Lufkin Rule Co.
  - Pratt & Whitney
  - Scherr Co., Inc.
  - Sheffield Corp.
  - Union Tool Co.
  - **Van Keuren Co.**
  - West & Dodge Thr. Gage
- **GAGES, Plug**
  - Brown & Sharpe
  - Clark, Jr., Pneumatic
  - **Federal Tool Corp.**
  - **Ford Motor Co.**
  - Greenfield Tap & Die
  - Lawrence & Hill
  - Lincoln Park Tool
  - Morse Twist Drill
  - Pratt & Whitney
  - Precision Gage & Tool
  - R & M Mfg. Co.
  - Saxl Instrument
  - Sheffield Corp.
  - Suprex Gage
  - Troy Tool & Gage
  - United Precision Prod.
  - West & Dodge Thr. Gage
- **GAGES, Pneumatic Tank**
  - Bacharach Industrial
  - **Mason-Neilan Regulator**
  - Pneumercator Co.
  - Rochester Mfg. Co.
  - Uehling Inst. Co.
- **GAGES, Precision Measuring**
  - **Ames Co., B. C.**
  - Brown & Sharpe
  - Comtor Co.
  - **Federal Prod. Corp.**
  - Ferner Co.
  - **Ford Motor Co.**
  - **Instrument Specialties Co.**
  - Lufkin Rule Co.
  - Metron Instrument
  - Pratt & Whitney
  - Rieker Instrument Co.
  - Scherr Co., Inc.
  - Sheffield Corp.
  - Starrett Co.
  - **Thwing-Albert Inst. Co.**
  - United Precision Prod.
  - **Van Keuren Co.**
  - Carl Zeiss, Inc.
- **GAGES, Pressure, Indicating**
  - Abercrombie Pump Co.
  - **American Meter Co.**
  - Anderson Co.
  - Ashton Valve Co.
  - Bacharach Industrial Inst.
  - **Bailey Meter Co.**
  - Baird Associates
  - Baldwin-Southwark Corp.
  - Bastian-Blessing
  - Belfield Co.
  - Boekel & Co.
  - **Bristol Co.**
  - **Brown Inst. Co.**
  - **Brush Development Co.**
  - **Builders-Providence**
  - Central Scientific Co.
  - **Certified Gauge**
  - Clapp Instrument
  - Clark Blast Meter
  - **Commercial Eng. Labs.**
  - Consol. Ashcroft Hancock
  - Continental Elec. Co.
  - Crosby Steam Gage
  - Defender Automatic Reg.
  - Dickson Co.
  - Dubrovin, John
  - Edison Electrical Controls
  - **Eimer & Amend**
  - Electric Auto-Lite
  - Esterline-Angus Co.
  - Fisher Scientific Co.
  - **Foxboro Co.**
  - **Fredericks, George**
  - **Friez & Sons**
  - Gas Appliance Specialties
  - General Elec. Co.
  - **Gotham Inst.**
  - Green, Henry J.
  - **Hays Corp.**
  - **Heise Bourdon Tube**
  - **Kurman Electric**
  - **Logansport Machine**
  - **Marsh Corp.**
  - **Mason-Neilan Regulator**
  - Mercoid Corp.
  - **Meriam Co.**
  - Metron Instrument
  - **Moeller Instrument Co.**
  - (Cont'd)
- **GAGES, Pressure, Indicating** (Cont'd)
  - National Research
  - Northern Engraving
  - Parks Co., **Harry S.**
  - **Pioneer Instrument**
  - **Pittsburgh Equitable Met.**
  - Plumb Co., **Inc.**
  - Precision Gage & Tool
  - **Precision Therm.**
  - Preferred Utilities Mfg.
  - **RCA Manufacturing Co.**
  - **Refinery Supply Co.**
  - Republic Flow Meters
  - Rochester Mfg. Co.
  - Scientific Inst. Co.
  - Star Brass Mfg. Co.
  - **Stokes Machine Co.**
  - Superior Meter Co.
  - **Tagliabue Mfg. Co.**
  - **Taylor Inst. Cos.**
  - **Trerice Co.**
  - **Trimount Instrument**
  - **Uehling Instrument Co.**
  - United Cinephone Corp.
  - **U. S. Gauge Co.**
  - Victor Equipment Co.
  - Wagner & Son, Carl H.
  - **Welch Mfg. Co.**
  - **Wheelco Instruments**
  - Wilgus Manufacturing
- **GAGES, Pressure—Recording (See Gages, Pressure, Indicating)**
- **GAGES, Pressure Temperature (See Gages, Pressure Indicating)**
- **GAGES, Pressure, Tire**
  - **U. S. Gauge Co.**
- **GAGES, Pressure & Vacuum (See Gages, Pressure Indicating)**
- **GAGES, Profile**
  - Lincoln Park Tool
  - Pratt & Whitney
  - Precision Gage & Tool
  - R & M Mfg. Co.
  - Sheffield Corp.
  - Stockton Profile Gauge
  - United Cinephone Corp.
- **GAGES, Radius**
  - Lufkin Rule Co.
  - Starrett Co.
  - United Cinephone Corp.
- **GAGES, Rain (See Rain Gages)**
- **GAGES, Rifle Bore**
  - Baldwin Southwark
  - Hathaway Inst. Co.
  - Poole Mfg. Engrs.
  - Pratt & Whitney
  - Sheffield Corp.
- **GAGES, Ring**
  - Brown & Sharpe
  - Greenfield Tap & Die
  - Lawrence & Hill
  - Lincoln Park Tool
  - Morse Twist Drill
  - Pratt & Whitney
  - Precision Gage & Tool
  - R & M Mfg. Co.
  - Saxl Instrument
  - Sheffield Corp.
  - Suprex Gage
  - Troy Tool & Gage
  - West & Dodge Thread
  - Zeiss, Inc., Carl
- **GAGES, Screw Thread**
  - Brown & Sharpe
  - Clark, Jr. Pneumatic Tool
  - **Federal Prod. Corp.**
  - Greenfield Tap & Die
  - Lincoln Park Tool
  - Lufkin Rule Co.
  - Millers Falls Co.
  - Pratt & Whitney
  - Reed Small Tool Works
  - Sheffield Corp.
  - Starrett Co.
  - Suprex Gage
  - Union Tool Co.
  - West & Dodge Thread
  - Zeiss, Inc., Carl
- **GAGES, Sliding**
  - Pratt & Whitney
  - **Van Keuren Co.**
- **GAGES, Snap**
  - Brown & Sharpe
  - Clark, Jr. Pneumatic Tool
  - Gen. Engg. & Model Wks.
  - Greenfield Tap & Die
  - Lawrence & Hill
  - Lincoln Park Tool
  - **M-G Gage Corp.**
  - Pratt & Whitney
  - Precision Gage & Tool
  - R & M Mfg. Co.
  - Scherr Co.
  - Sheffield Corp.
  - Troy Tool & Gage
- **GAGES, Spline**
  - Brown & Sharpe
  - Pratt & Whitney
  - Precision Gage & Tool
  - Sheffield Corp.
- **GAGES, Star**
  - Moore Products
  - Pratt & Whitney
- **GAGES, Strain**
  - **American Inst. Co.**
  - Baldwin-Southwark
  - **Consolidated Engg.**
  - General Elec. Co.
  - Hathaway Inst. Co.
  - Metron Instrument
  - **Metzger & Son**
  - **Miller Corp., Wm.**
  - Olsen Testing Machine
  - (Cont'd)

MARSH
PRESSURE GAUGES

● Marsh Pressure Gauges are known for accuracy and their ability to stay accurate. Pressure gauges in all standard ranges up to 30,000 pounds—also vacuum, altitude, compound and recording gauges. An outstanding feature is the "Recalibrator"—far superior to the ordinary "zero" adjustment. The latest addition to the Marsh line is the new Marsh "Mastergauge" series—gauges tremendously advanced in accuracy and stamina.

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JAS. P. MARSH CORPORATION
2063 SOUTHPORT AVE., CHICAGO, ILL.

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GAUGES FOR RECORDING AND CONTROLLING PRESSURE, DRAFT, VACUUM, ABSOLUTE PRESSURE, LIQUID LEVEL

Bristol Recording Gauges are offered in a wide variety of models for pole, wall and panel mounting and for portable service. Included are models for ranges from full vacuum to 12,000 lbs. sq. in., moisture-, water-, fume- and dust-proof cases—in single, double, or three-pen instruments. Write for Bulletin 1025—L 700. The Bristol Co., 113 Bristol Road, Waterbury, Conn.

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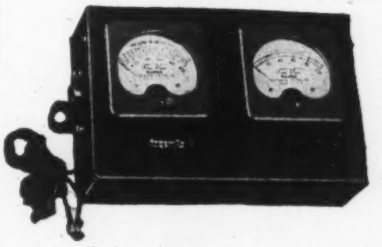
TRU-VAC
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(PIRANI TYPE)

Shown at left is meter box of our model No. 6 gauge.

This gauge successfully used by many of America's foremost manufacturers.

Send for circular on our new low priced D.C. operated gauge.

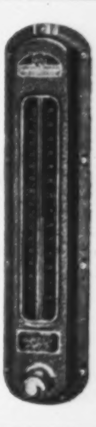
CONTINENTAL ELECTRIC CO.
GENEVA, ILLINOIS

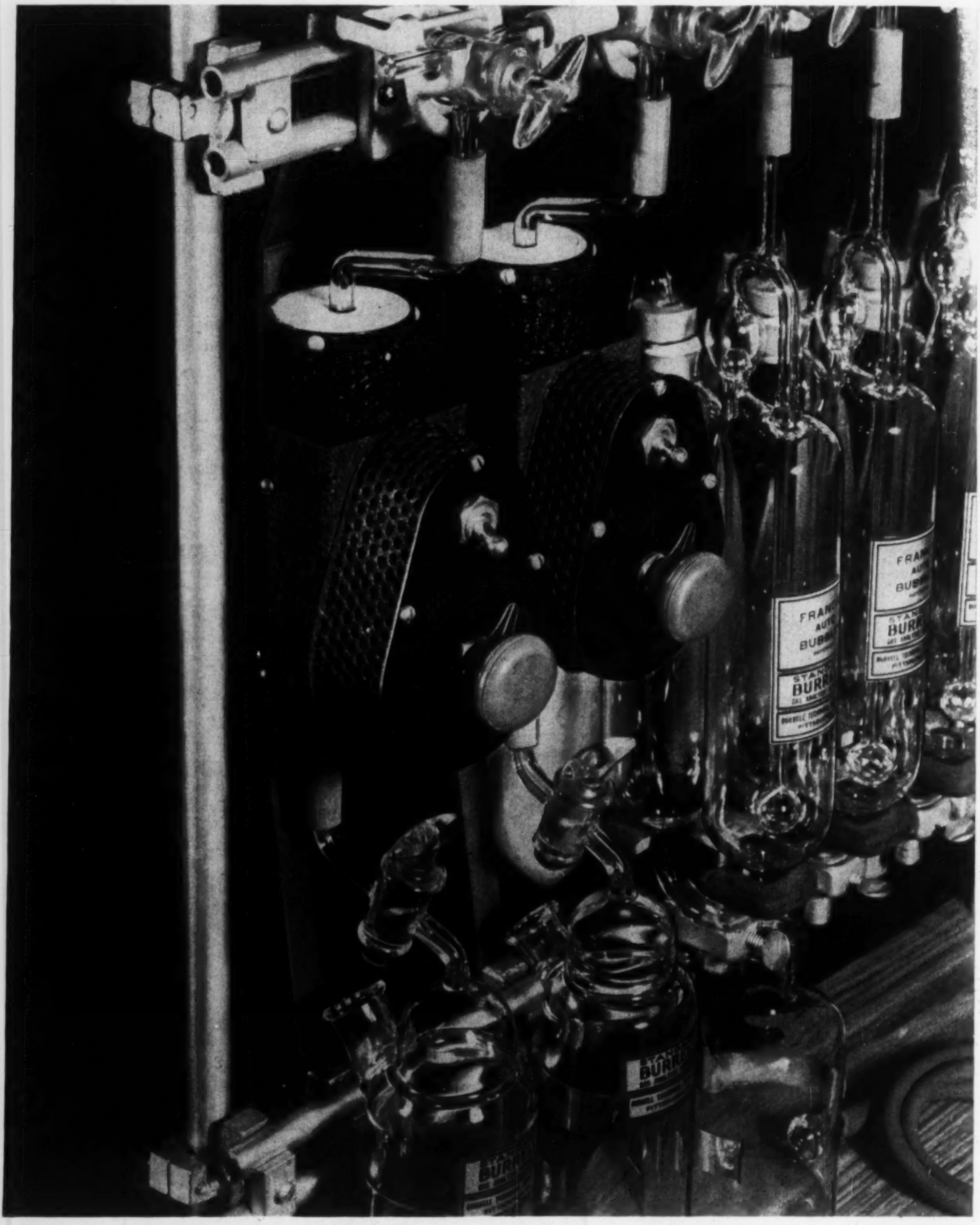
LIQUID MEASUREMENT
with the
KING-GAGE
(formerly Industrial K-S Telegage)

A simple hydrostatic balance — no floats, gears, diaphragms or moving parts — rugged construction — simple design — accurate measurement of Laboratory standard for commercial use. Distant reading, for indicating contents of pressure or vented storage tanks in any unit of Depth, Volume or Weight.

Approved by Underwriters' Laboratories

KING ENGINEERING CORP.
ANN ARBOR, MICH.





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Catalysis Supersedes Slow Combustion

Ask for Bulletin 42-12 describing the New Gas Standard Burrell Analysis Apparatus

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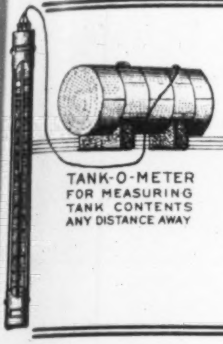
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TANK CONTENTS
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Absolute Pressure Recorders - Liquid Level Gauges
473 GETTY AVENUE
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GAGES, Strain (Cont'd)
- Pratt & Whitney
- **Saxl Inst. Co.**
- Starrett Co.
- **Waugh Laboratories**

GAGES, Surface
- **Ames Co., B. C.**
- **Brown & Sharpe**
- **Genales, Andrew**
- **Federal Prod. Corp.**
- **Lufkin Rule Co.**
- **Millers Falls Co.**
- **Saxl Inst. Co.**
- **Starrett Co.**
- Zeiss, Inc., Carl

GAGES, Taper
- **Brown & Sharpe**
- **Federal Prod. Corp.**
- Lincoln Park Tool
- **Precision Gage & Tool**
- **Pratt & Whitney**
- **R & M Mfg. Co.**
- **Sheffield Corp.**
- **Starrett Co.**
- United Precision Prod.

GAGES, Telescoping
- **Brown & Sharpe**
- **Lufkin Rule Co.**
- Pacific Tool & Supply
- **Starrett Co.**

GAGES, Thickness
- **Ames Co., B. C.**
- **Amthor Testing Inst. Co.**
- **Brown & Sharpe**
- **Federal Prod. Corp.**
- **Ford Motor Co.**

(Cont'd)

GAGES, Thickness (Cont'd)
- **General Elec. Co.**
- Gen. Engg. & Model Wks
- **Hathaway Inst. Co.**
- **Ill. Testing Labs.**
- Instrument Specialties Co
- Lawrence & Hill
- **Lufkin Rule Co.**
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- **Marshall Co.**
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- Millers Falls Co.
- Moore Products
- Pratt & Whitney
- Precision Gage & Tool
- Precision Therm. & Inst.
- Randall, Frank E
- R & M Mfg. Co.
- **Saxl Inst. Co.**
- Sheffield Corp.
- **Speidel & Co.**
- **Starrett Co.**
- **Suter, Alfred**
- **Thwing-Albert Inst. Co.**
- Union Tool Co.
- **Van Keuren Co.**
- Waltham Dial Gage

GAGES, Thickness, Magnetic
- **American Inst. Co.**
- **Commercial Eng. Labs.**
- **General Elec. Co.**
- Hathaway Inst. Co.
- **Hickok Elec. Inst. Co.**
- **Magnetic Gauge Co.**
- Metron Instrument

GAGES, Tide
- **American Inst. Co.**
- Ballauf Mfg. Co.
- **Uehling Instrument Co.**

GAGES, Torque
- Apco Mossberg Co.
- Baldwin Southwark
- Martin Decker Corp.
- Metron Instrument
- **Riehle Div.**
- Saxl Inst. Co.
- **Sturtevant Co.**
- Toledo Scale Co.

GAGES, Vacuum
(See Gages, Pressure)

GAGES, Venturi (See Flow Meters, Venturi)

GAGES, Water Level (See Gages, Liquid Level)

GAGES, Wind
- **American Inst. Co.**
- Detroit Air Meter
- **Friez & Sons**
- Fuess, Inc.
- Green, Henry J.
- Kenyon Instrument Co
- Rieker Inst. Co.
- **Taylor Inst. Cos.**

GAGES, Wire Measuring
- **Ames Co., B. C.**
- Brown & Sharpe
- **Federal Prod. Corp.**
- Greenfield Tap & Die
- **Hathaway Inst. Co.**
- **Instrument Specialties Co.**
- Moore Products
- Pratt & Whitney
- Sheffield Corp.
- Starrett Co.

GAGING FIXTURES
- Herkimer Tool
- Lawrence & Hill
- Ryan Tool & Engg.
- Saxl Instrument
- Vinco Corp.

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- **Brush Development Co.**
- **Cambridge Inst. Co.**
- Central Scientific Co.
- **Consolidated Engg.**
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- **Hathaway Inst. Co.**
- **Heiland Research Corp.**
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- **RCA Manufacturing**
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- **Weston Elec. Inst.**
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- **Leeds & Northrup Co.**
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- **Rawson Electrical Inst.**
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- **Cambridge Inst. Co.**
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- Simpson Elec. Co.
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- **Triplett Electrical Inst.**
- **Welch Mfg. Co.**
- Westinghouse Elec. & Mfg.
- **Weston Elec. Inst. Corp.**
- **Wheelco Inst. Co.**

GALVANOMETERS, Piezoelectric
- **Brush Development Co.**

GALVANOMETERS, Reflecting
- **Consolidated Engg.**
- **Heiland Research**
- **Rawson Electrical Inst.**
- **Rubicon Co.**
- Ruska & Co.

GALVANOMETERS, Vacuum-tube
- Engineering Labs., Inc.
- Hathaway Instrument Co.
- **Heiland Research**
- **Measurements Corp.**
- Metals Research App.
- **National Technical Labs.**
- **RCA Manufacturing**
- **Tagliabue Mfg. Co., C. J.**

GALVANOSCOPES
- Central Scientific Co.

GAS ANALYZERS, Air
- **Burrell Technical Supply**
- **Cambridge Inst. Co.**
- Central Scientific Co.
- **Eimer & Amend**
- **Fish-Schurman Co.**
- Fisher Scientific Co.
- **Friez & Sons**
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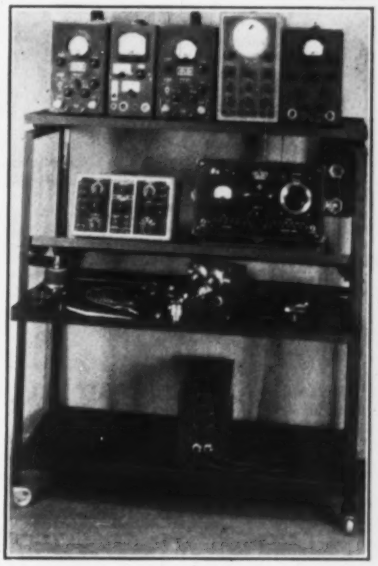

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Burrell Technical Supply
Cambridge Inst. Co.
Engelhard, Chas.
Mercoid Corp.
Permutit Co.
Sargent & Co.
Tagliabue Mfg. Co.

GAS ANALYZERS, Carbon Dioxide
Ace Glass Inc.
Bacharach Industrial Inst.
Brown Inst. Co.
Burrell Tech. Supply
Cambridge Inst. Co.
Central Scientific Co.
Defender Automatic Reg.
Dwyer Mfg. Co.
Eimer & Amend
Ellison Draft Gage Co.
Engelhard, Chas.
Fish-Schurman Co.
Fisher Scientific Co.
Friez & Sons
Gow-Mac Instrument
Hays Corp.
Hebler Co.
Lantz-Phelps Corp.
Leeds & Northrup Co.
Machlett & Son
Permutit Co.
Potter Co.
Precision Therm.
Preferred Utilities Mfg.
Republic Flow Meters
Sargent & Co.
(Cont'd)

GAS ANALYZERS, Carbon Dioxide (Cont'd)
Scientific Glass App.
Scientific Inst. Co.
Tagliabue Mfg. Co.
Uehling Instrument Co.
Williams Apparatus Co.

GAS ANALYZERS, Carbon Monoxide
Bacharach Industrial Inst.
Burrell Technical Supply
Cambridge Inst. Co.
Chicago Apparatus Co.
Eclipse Aviation
Eimer & Amend
Fish-Schurman Co.
Hays Corp.
Leeds & Northrup Co.
Machlett & Son
Mine Safety Appliances
Sargent & Co.
Scientific Glass App.
Scientific Inst. Co.
Tagliabue Mfg. Co.

GAS ANALYZERS, Chlorinated Hydrocarbons
Willson Products, Inc.

GAS ANALYZERS, Flue Gas (See Gas Analyzers, Carbon Dioxide)

GAS ANALYZERS, Hydrocarbon
Consolidated Eng.

GAS ANALYZERS, Hydrogen
Bacharach Industrial Inst.
Burrell Technical Supply
Chicago Apparatus Co.

GAS ANALYZERS, Hydrogen Sulphide
American Meter
Burrell Technical Supply
Bushnell & Nevins
Cambridge Inst. Co.
Connelly Iron Sponge
Davis Emergency Equip.
Eimer & Amend
Johnson-Williams, Ltd.
Mine Safety Appliances
Rubicon Co.
Sargent & Co.
Scientific Glass Apparatus

GAS ANALYZERS, Nitric Oxide
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Eimer & Amend
Rubicon Co.
Sargent & Co.

GAS ANALYZERS, Orsat
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Bailey Meter Co.
Burrell Technical Supply
Central Scientific Co.
Chicago Apparatus Co.
Defender Automatic Reg.
Dwyer Mfg. Co.
Eimer & Amend
Ellison Draft Gage
Fish-Schurman Co.
Fisher Scientific Co.
Hays Corp.
Machlett & Son
Precision Therm.
Sargent & Co.
Scientific Glass App.
Specialty Glass Co.

GAS ANALYZERS, Oxygen
Burrell Technical Supply
Chicago Apparatus Co.
Cambridge Inst. Co.
Eclipse Aviation
Eimer & Amend
Hays Corp.
Hebler Co.
Mine Safety Appliances
Sargent & Co.
Scientific Glass App.
Tagliabue Mfg. Co.

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Central Scientific Co.
Eimer & Amend
Hebler Co.
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Tagliabue Mfg. Co.

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Cambridge Inst. Co.
Eimer & Amend
Engelhard, Chas.
Fish-Schurman Co.
Hebler Co.
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Bristol Co.
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Foxboro Co.
Zuhr, Inc., Henry

GAS LEAK INDICATORS
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Davis Emergency Equip.
Gilmore, E. R.
Goldak Co.
Heiland Research Corp.
Johnson-Williams, Ltd.
McFarlin Co.
Taylor Inst. Cos.
Water Leak Detector Co.
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GAS METERS, INFERENTIAL—Flow Nozzle (See Flowmeters, Orifice and Nozzle)

GAS METERS, INFERENTIAL—Orifice (See Flowmeters, Orifice and Nozzle)

GAS METERS, INFERENTIAL — Pitot-tube (See Flowmeters, Pitot-tube)

GAS METERS, INFERENTIAL—Venturi (See Flowmeters, Venturi)

GAS METERS, POSITIVE, Bellows, Slide-valve
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Cleveland Gas Meter
Lambert Meter Co.
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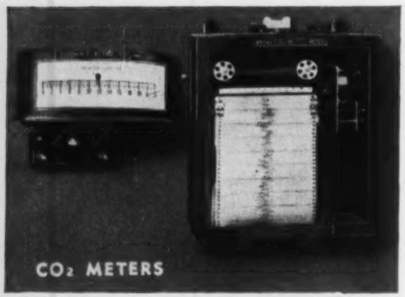

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MINNEAPOLIS-HONEYWELL CONTROL SYSTEMS
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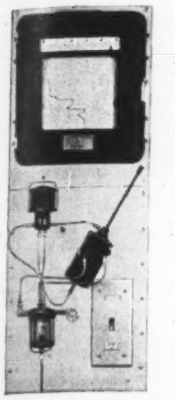

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Metron Instrument
Mico Instrument Co.
Miller Corp., Wm.
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Central Scientific Co.
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Suter, Alfred
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GONIOMETERS
Automatic Temp. Control
Fuess, Inc.
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GOVERNORS (See also object of measurement and control)

GOVERNORS, Air (See Regulators, Automatic, Air)

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Connelly Iron Sponge
Pittsburgh Equit. Meter

GOVERNORS, Engine
Cash Co.
Hagan Corp.
Hanlon-Waters, Inc.
Judson Governor Co.
Mason-Neilan Regulator
Pickering Governor
Pittsburgh Equit. Meter

GOVERNORS, Gas (See Regulators, Automatic, Air)

GOVERNORS, Hydraulic
Cash Co.
Hagan Corp.
Hanlon-Waters, Inc.
McAlear Mfg. Co.
Schade Valve Mfg.
Tagliabue Mfg. Co.

GOVERNORS, Liquid Level (See Controllers, Automatic, Liquid Level)

GOVERNORS, Pressure (See Regulators, Automatic, Air)

GOVERNORS, Pump (See Regulators, Automatic, Air)

GOVERNORS, Station
Connelly Iron Sponge

GOVERNORS, Steam (Regulators, Automatic, Air)

GOVERNORS, Turbine
Cash Co.
Hagan Corp.
Mason-Neilan Regulator

GRADUATING MACHINES (See Dividing Machines)

GRAIN TESTERS (See Testers, Grain)

GRAPHIC (See object of measurement and control)

GRANULAR MATERIALS MEASUREMENTS, Level Indicator & Control
Bin-Dicator Co.

GRANULAR MATERIALS MEASUREMENTS, Particle Size Separator
Fed. Pneumatic Systems

GRANULAR MATERIALS MEASUREMENTS, Volume-Flow Indicators
Builders-Providence
Dietert Co.
Richardson Scale Co.

GRANULAR MATERIALS MEASUREMENTS, Volume Integrating Meters
Bailey Meter Co.
Builders-Providence
Richardson Scale Co.

GRANULAR MATERIALS MEASUREMENTS, Weight-Flow Indicators & Recorders
Builders-Providence
Richardson Scale Co.

GRANULAR MATERIALS MEASUREMENTS, Weight-Integrating Meters
Builders-Providence
Richardson Scale Co.
Toledo Scale Co.

GRATING, Diffraction
Central Scientific Co.
Dietert Co.
Fish-Schurman Co.
Fuess, Inc.
Gaertner Scientific Corp.
Laboratory Specialties
Welch Mfg. Co.

GRATING, Echelon
Fuess, Inc.
Gaertner Scientific Corp.
Jarrell-Ash Co.

GRAVIMETERS
Brown Geophysical
Geophysical Inst. Co.
Heiland Research
Le Coste & Romberg
Mott-Smith Corp.
Ruska & Co.
Western Geophysical

GRAVITOMETERS
American Meter Co.
Eimer & Amend
Refinery Supply Co.

GRAVITY, Indicators & Recorders
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Bailey Meter Co.
Builders-Providence
Eimer & Amend
Foxboro Co.
Specialty Glass Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.

GREASE TESTING APPARATUS
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Brabender Corp.
Central Scientific Co.
Eimer & Amend
Fish-Schurman Co.
Fisher Scientific Co.
Humboldt Mfg. Co.
Precision Scientific Co.
Saxl Inst. Co.
Tagliabue Mfg. Co.
Televiso Co.
Western Machinery Co.

GROUND DETECTORS
Amer. Automatic Elec.
General Elec. Co.
Heiland Research
Roller-Smith Co.
Westinghouse Elec. & Mfg.

GROUND RESISTANCE METERS
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Biddle Co., Jas. G.
Borden Elec. Co.
General Elec. Co.
Geophysical Inst. Co.
Heiland Research Corp.
Industrial Inst. Inc.
Roller-Smith Co.
Shallcross Mfg. Co.
Sticht Co., Inc.

HARDNESS METER, for Plastic Films (See Testers, Hardness of Plastic Films)

HARDNESS TESTER (See Testers & Testing Machines, Hardness)

HARMONIC ANALYZERS
Gaertner Scientific Corp.
General Radio Co.
Keuffel & Esser Co.
Mico Instrument Co.
Scientific Apparatus Co.
United Transformer Corp.

HELIOSTATS
Eastern Science Co.
Fecker, J. W.
Gaertner Scientific Corp.

HIGH ALTITUDE TEST & CALIBRATION CHAMBERS see Chambers, Test & Calibration

HIGH-FREQUENCY APPARATUS
Clough-Brengle Co.
Ferris Inst. Corp.
General Electric X-Ray
International Resistance
McFarlin Co.
Measurements Corp.
Raytheon Mfg. Co.
RCA Manufacturing Co.
United Cinephone Corp.

HOOK GAGES (See Gages, Hook)

HORIZONS, ARTIFICIAL (See Artificial Horizons)

HOUR COUNTERS (See Time Meters)

HOUSINGS, Instrument
Eby, Inc.
Electric Tachometer
Falstrom Co.
Karp Metal Products
Lewyt Metal Products
Rueckert Mfg. Co.

HUMIDITY INSTRUMENTS, Aspiration psychrometric (See Psychrometers, Aspiration)

HUMIDISTATS
American Moistening Co.
Automatic Products Co.
Barber Coleman
Friez & Sons
Johnson Service Co.
Minneapolis-Honeywell
Penn Electric Switch
Powers Regulator Co.
Standard Engg. Works
Supreme Elec. Prods.

HUMIDITY INSTRUMENTS, Hygrometric (See Hygrometers)

HUMIDITY INSTRUMENTS, Aspiration Psychrometric (See Psychrometers, Aspiration)

HUMIDITY INSTRUMENTS, Conductivimetric
Industrial Insts. Inc.
Leeds & Northrup Co.

HUMIDITY INSTRUMENTS, Hygrometric (See Hygrometers)

HUMIDITY INSTRUMENTS, Sling Psychrometric (See Psychrometers, Sling)

HUMIDITY INSTRUMENTS, Hygroscopic
Barber-Colman
Bristol Co.
Foxboro Co.
Friez & Sons, Julien
Taylor Inst. Cos.

HYDROGEN-ION DETERMINATION INSTRUMENTS
Bristol Co.
Cambridge Inst. Co.
Central Scientific Co.
Coleman Elec. Co.
Colloid Equip. Co.
Fisher Scientific Co.
General Elec. Co.
Hellige, Inc.
LaMotte Chemical Prod.
Leeds & Northrup Co.
Leitz, Inc.
Machlett & Son

(Cont'd)

HYDROGEN-ION DETERMINATION INSTRUMENTS (Cont'd)
Natl. Technical Labs.
Pfaltz & Bauer, Inc.
Rascher & Betzold
Rawson Elec. Inst. Co.
Rubicon Co.
Sargent & Co.
Tagliabue Mfg. Co.
Taylor & Co., W. A.
Technical Products
Thwing-Albert Inst. Co.
Wallace & Tiernan
Welch Mfg. Co.
Wilkens-Anderson Co.

HYDROGENATION APPARATUS
American Inst. Co.
Central Scientific Co.
Machlett & Son
Parr Instrument Co.

HYDROMETERS, Indicating
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Accuracy Scientific Inst.
Brooklyn Thermometer Co.
Chaslyn Co.
Edelmann & Co.
Fisher Scientific Co.
Fleischhauer & Son
Fried & Lustig
G. M. Mfg. Co., Inc.
Griebel Instrument Co.
H-B Inst. Co., Inc.
Huddleston, J. S. F.
Kimble Glass
Mason-Neilan Regulator
Moeller Instrument Co.
Nurnberg Therm. Co.

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Scientific Glass Apparatus
Scientific Inst. Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Testrite Instrument Co.
Trerice Co.
Wagner & Son, Carl H.
Weksler Thermometer
Western Machinery Co.

HYDROMETERS, Mud
Braun Corp.

HYDROMETERS, Recording
Fried & Lustig
Mason-Neilan Regulator
Rascher & Betzold
Ruehfel Co.
Testrite Instrument Co.
Weksler Thermometer

HYDROMETERS, Thermo (See Hydrometers, Indicating)

HYGROMETERS, Controlling
Ess Instrument
Gordon Co., Claud S.
Tagliabue Mfg. Co.

HYGROMETERS (Hair, etc.) Indicating
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Barber-Colman
Bristol Co.
Brown Inst. Co.
Cambridge Inst. Co.
Central Scientific Co.
Fee & Stemwedel
Foxboro Co.
Fried & Lustig
Friez & Sons
Fuess, Inc.
Glogau & Co.
G. M. Mfg. Co., Inc.
Green, Henry J.
Huddleston, J. S. F.
Johnson Service Co.
Manning, Maxwell & Moore
Mason-Neilan Regulator
Moeller Instrument Co.
Muter Company
Palmer Co.
Parks-Cramer Co.
Phila. Thermometer Co.
Precision Therm.
Rieker Inst. Co.
Sargent & Co.
Scientific Inst. Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Weksler Thermometer
Wilder Sales Co.

HYGROMETERS, Recording
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Brown Inst. Co.
Cambridge Inst. Co.
Foxboro Co.
Friez & Sons
Fuess, Inc.
Green, Henry J.
Leeds & Northrup Co.
Manning, Maxwell & Moore
Mason-Neilan Regulator

(Cont'd)

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Scientific Inst. Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.

HYGROSTATS
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Barber-Coleman Co.
Central Scientific Co.
Friez & Sons
Johnson Service Co.
Parks-Cramer Co.
Penn Elec. Switch Co.
Powers Regulator Co.

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Foxboro Co.
Fuess, Inc.
Friez & Sons
Green, Henry J.

HYPSOMETERS
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Keuffel & Esser Co.
Warren-Knight Co.

ICE WARNING, Indicators
Kollsman Inst. Co.

IGNITION VELOCITY METERS
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Southw'n Electronics Labs.

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Betts & Betts
Electronic Lab.
Electronic Prods. Co.
G-M Labs.
Paragon Electric Co.
Photobell Corp.
United Cinephone Corp.
Weston Elec. Inst. Corp.

ILLUMINATION INDICATORS
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G-M Labs.
Leeds & Northrup Co.
Photobell Corp.
Photovolt Corp.
United Cinephone Corp.
Weston Elec. Inst. Corp.

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General Elec. Co.
United Cinephone Corp.

IMPACT RECORDERS
Impact Register

IMPACT TESTING MACHINES (See Testers & Testing Machines, Impact)

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INCLINOMETERS
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Fish-Schurman Co.
Kollsman Inst. Co.
Machlett & Son
Pioneer Instrument Co.
Precision Therm.
Rieker Inst. Co.
Ruehfel Co.
Ruska & Co.
Schwein Engineering
Starrett Co.
Warren-Knight Co.

INCLINOMETERS, Bore Hole
Ruska & Co.
Sperry-Sun Well Surveying

INCLINOMETERS, Lateral (Aviation)
Lackner Co.
Machlett & Son
Schwien Engineering

INCLINOMETERS, Ship
Moeller Inst. Co.

INDEXES, Base Volume & Base Pressure
American Meter Co.

INDICATORS (Look under the object of measurement and control)

INDICATORS, Engine
American Inst. Co.
Bacharach Industrial Inst.
Baldwin-Southwark Corp.
Bendix Marine Products
Cambridge Inst. Co.
Commercial Engg. Labs.
Consolidated Engg.
Crosby Steam Gage Co.
Federal Telegraph
McNab of Bridgeport
Pioneer Instrument Co.
Robertson, 3rd, J. L.
Star Brass Mfg. Co.
Trill Indicator Co.

INDICATORS, Engine Compression
Bacharach Industrial Inst.
Baldwin-Southwark Corp.
Cambridge Inst. Co.
Commercial Engg. Labs.
RCA Manufacturing Co.
Trill Indicator Co.

INDICATORS,-Ignition Lag
American Inst. Co.

INDICATORS, Multiple Recording
Commercial Engg. Labs.

INDICATORS, Rate of Climb
Kollsman Inst. Co.
Pioneer Instrument Co.
Rieker Inst. Co.

INDICATORS, Sound
Amperite Corp.
Clough-Brengle Co.
Daven Co.
Electronic Design Corp.
RCA Manufacturing Co.

INDICATORS, Time Interval see Timers, Automatic, Interval

INDUCTANCE METERS
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Industrial Instruments
Leeds & Northrup Co.
Premier Crystal Labs.
Rubicon Co.
Shallcross Mfg. Co.
Sickles Co.
United Transformer Corp.

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Electric Sorting Mach. Co.

INSPECTION DEVICES, AUTOMATIC, Concentricity
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Sheffield Corp.

INSPECTION DEVICES, AUTOMATIC, Cylindricality
Federal Prod. Corp.
Heyman Co.
Sheffield Corp.

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Heyman Co.
Instrument Specialties Co.
Rowe Radio Res. Lab.
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INSPECTION DEVICES, AUTOMATIC, Dimensions
Gaertner Scientific Corp.
Heyman Co.
Metron Instrument
Sheffield Corp.

INSPECTION DEVICES, AUTOMATIC, Hardness
Barber-Colman
Brabender Corp.
Detroit Testing Mach.
Gogan Machine
Saxl Inst. Co.

INSPECTION DEVICES, AUTOMATIC, Insulated Wire
Comtor Co.

INSPECTION DEVICES, AUTOMATIC, Smoothness
Electronic Prod. Co.
Physicists Research Co.
Saxl Inst. Co.
Thwing-Albert Inst. Co.

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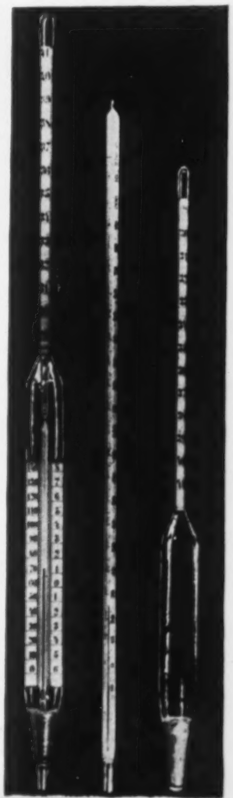
Electronic Prod. Co.
Gaertner Scientific Corp.
Hathaway Instrument
Heyman Co.
Instrument Specialties Co.
Magnetic Gauge Co.
Saxl Inst. Co.
Sheffield Corp.
Thwing-Albert Inst. Co.

INSPECTION EQUIPMENT, Arc Welding
Rubicon Co.

INSPECTION EQUIPMENT, Bore Hole (See Telescopes, Bore, Inspection)



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pH RECORDERS for
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- OIL REFINERIES
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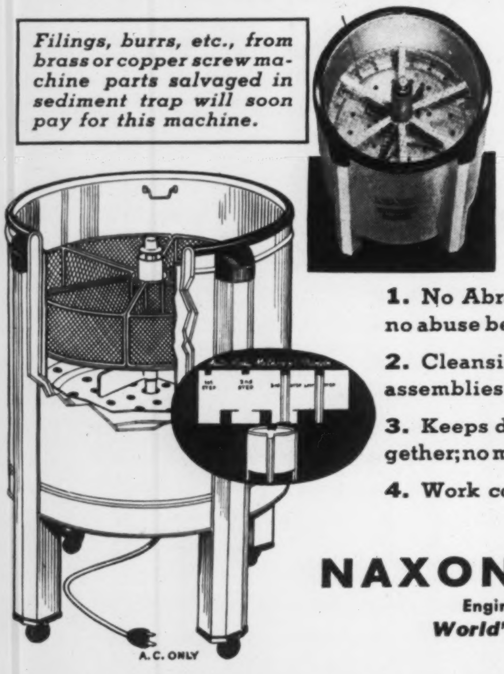

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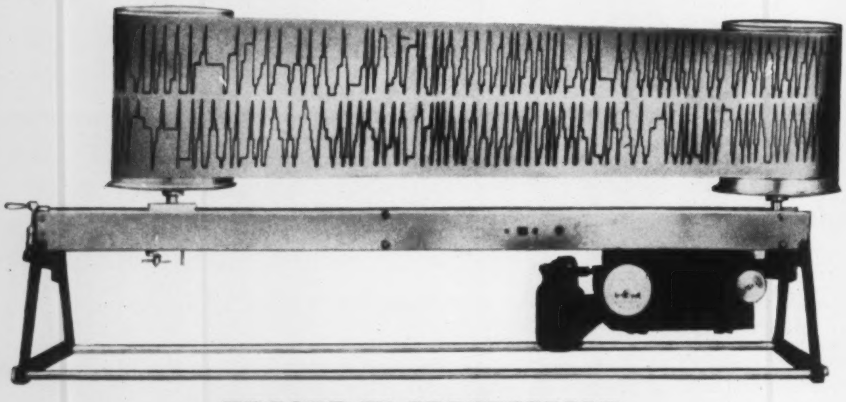

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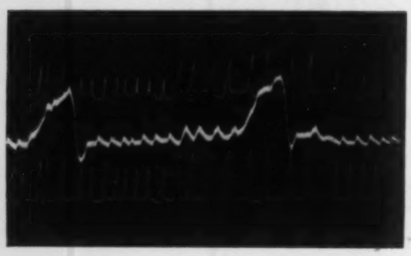

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Ferner Co.
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Huisking & Co.
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Mico Inst. Co.
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INSTRUMENT TRANSFORMERS (See Transformers, Instrument)
INSTRUMENT TUBING & FITTINGS
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Keuffel & Esser Co.
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Zeiss, Inc., Carl
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Autocall Co.
Esterline-Angus Co.
Stromberg Electric Co.
KERR CELLS (See Cells, Kerr)
KEYS & SWITCHES
Amer. Automatic Electric
Andrew, Victor J.
Beck Bros.
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Kellogg Switchboard
Leeds & Northrup Co.
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LABORATORY FURNITURE (See Furniture, Laboratory)
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LABORATORY SUPPLIES (See Apparatus, Laboratory)
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LABORATORY OVENS (See Ovens, Laboratory)
Chart Production Co.
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LABORATORY PORCELAIN (See Porcelain, Laboratory)
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Moeller Instrument Co.
Precision Therm.
Rieker Inst. Co.
Ruehfel Co.
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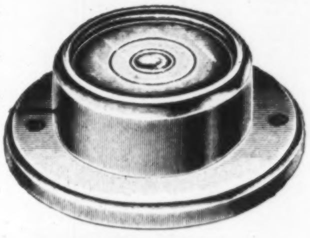
Fuess, Inc.
Ruska & Co.
LENSES, Astronomical
Clark & Sons
Fecker, J. W.
Perkin-Elmer Corp.
Ruska & Co.
Simpson Optical
LENSES, Burette
Central Scientific Co.
Fish-Schurman Co.
Fisher Scientific Co.
G. M. Mfg. Co., Inc.
Microchemical Service
Parr Instrument Co.
Precision Scientific Co.
Precision Therm.
Rieker Inst. Co.
Simpson Optical
LENSES, Low Reflecting Surfaces
National Research Corp.
LENSES, Microscope, etc.
Bausch & Lomb Optical
Fish-Schurman Corp.
Gaertner Scientific Corp.
Leitz, Inc.
Pfaltz & Bauer, Inc.
Ruska & Co.
Simpson Optical
Spencer Lens Co.
Zeiss, Inc., Carl
LENSES, Polarized
Pfaltz & Bauer, Inc.
Polarizing Inst. Co.
Valpey Crystals
Woermann-Schuchhardt
Zeiss, Inc., Carl
LENSES, Thermometer (See Lenses, Burette)
LEVELS, Circular Spirit
Dietzen Co.
Geier & Bluhm, Inc.
Glogau & Co.
Gurley, W. & L. E.
Keuffel & Esser Co.
Ruehfel Co.
Warren-Knight Co.
White Co., Inc., David
LEVELS, Dumpy (See Surveying Instruments)
LEVELS, Engineer's (See Surveying Instruments)
LEVELS, Hand
Alpha Instrument Co.
Bostrom-Brady
Dietzen Co.
Gurley, W. & L. E.
Keuffel & Esser Co.
Leupold & Stevens
Pittsburgh Inst. & Mach.
Starrett Co.
United States Blue Print
Warren-Knight Co.
Weber Co., F.
White Co. Inc., David
LEVELS, Precision
Alpha Instrument Co.
Berger & Sons
Fish-Schurman Co.
Glogau & Co.
Gurley, W. & L. E.
Heiland Research
(Cont'd)

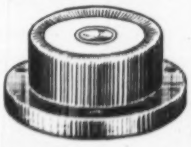
LEVELS, Precision (Cont'd)
Kern Co.
Keuffel & Esser Co.
Leupold & Stevens
Moeller Inst. Co.
Rieker Instrument Co.
Scherr Co., Inc.
Starrett Co.
Warren-Knight Co.
Weber Co., F.
White Co. Inc., David
Zeiss, Inc., Carl
LEVELS, Prism
Fecker, J. W.
Kern Co.
Keuffel & Esser Co.
Taylor Inst. Cos.
White Co. Inc., David
LEVELS, Surveying (See Surveying Instruments)
LEVELS, Wye (See Surveying Instruments)
LIGHT METERS
De Jur-Amsco Corp.
General Elec. Co.
Knickerbocker Dev.
Pfaltz & Bauer, Inc.
Photobell Corp.
Pho-Tron Inst. Co.
Weston Elec. Inst. Corp.
Welch Mfg. Co.
LIGHT SOURCES see also Gas & Vapor Discharge Tubes
LIGHT SOURCES, "Daylight"
Barkon-Frink
General Elec. Co.
Macbeth Daylighting Co.
LIGHT SOURCES, Incandescent
Barkon-Frink
Bausch & Lomb Opt.
Fredericks, George
Gaertner Scientific Co.
General Elec. Co.
G-M Labs.
Leitz, Inc., E.
United Cinephone Corp.
LIGHT SOURCES, Monochromatic
Akatos, Inc.
American Inst. Co.
Bausch & Lomb Opt.
Central Scientific Co.
Fish-Schurman Co.
Fuess, Inc.
Gaertner Scientific Corp.
Gen. Elec. Lamp Dept.
General Physical Lab.
Jarrell-Ash Co.
Laboratory Specialties
(Cont'd)

CIRCULAR SPIRIT LEVEL VIALS



MOUNTED and

UNMOUNTED



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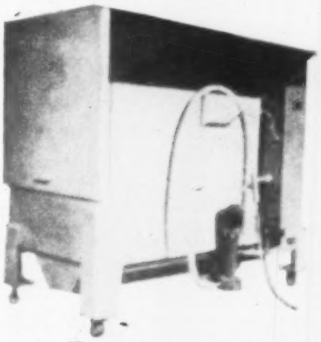

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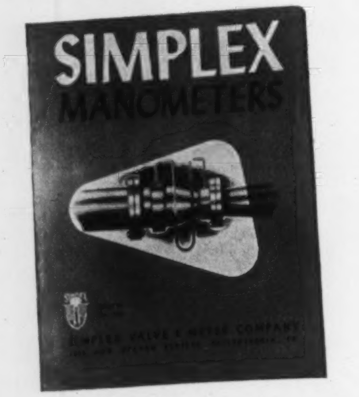

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Atlas Electric Devices
Central Scientific Co.
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Gaertner Scientific Corp.
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Hanovia Chem. & Mfg.
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Cambridge Inst. Co.
Geophysical Inst. Co.
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MAGNETS, Permanent
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Boyer-Campbell
Buhl Optical
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Fuess, Inc.
Glogau & Co.
G. M. Mfg. Co., Inc.
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Kollmorgen Optical Co.
Speidel & Co.
Spencer Lens Co.
Testrite Instrument Co.
Warren-Knight Co.
Weber Co., F.
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MALT TESTING APPARATUS (See Testers, Malt)

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Daniel Orifice Fitting
Meriam Co.

MANOMETERS, Inclined Tube
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Bacharach Industrial Inst.
Bailey Meter Co.
Defender Automatic Reg.
Detroit Air Meter Co.
Dwyer Mfg. Co.
Friez & Sons
Fuess, Inc.
Hays Corp.
H-B Inst. Co., Inc.
Manning, Maxwell & Moore
Meriam Co.
Precision Therm.
Trimount Instrument
Uehling Inst. Co.

MANOMETERS, Micro
Bacharach Industrial Inst.
Cambridge Inst. Co.
Fuess, Inc.
Trimount Instrument
Welch Mfg. Co.

MANOMETERS, Remote-reading
Bailey Meter Co.
Brown Inst. Co.
Uehling Inst. Co.

MANOMETERS, Single-tube & Reservoir
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Bacharach Industrial Inst.
Bailey Meter Co.
Builders-Providence
Commercial Engg. Labs.
Connelly Iron Sponge Co.
Corning Glass Works
Defender Automatic Reg.
Detroit Air Meter Co.
Dwyer Mfg. Co.
Friez & Sons, Julien
Gas Appliance Specialties
Lantz-Phelps Corp.
Meriam Co.
Morey & Jones, Ltd.
Pioneer Instrument
Precision Therm.
Scientific Inst. Co.
Simplex Valve & Meter
Trimount Instrument
Uehling Inst. Co.

MANOMETERS, U-tube, Electric Transmitting
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Brown Inst. Co.
Builders-Providence
Gorrell & Gorrell
Precision Therm.
Southw'n Electronics Labs.

MANOMETERS, U-tube, Glass
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Annis Co.
Bacharach Industrial Inst.
Builders-Providence
Connelly Iron Sponge
Defender Automatic Reg.
Detroit Air Meter Co.
Dwyer Mfg. Co.
Eimer & Amend
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Fisher Scientific Co.
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Gotham Inst.
Hays Corp.
Kimble Glass Co.
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Lambert Meter Co.
Macalaster Bicknell Co.
Machlett & Son
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Meriam Co.
Mine Safety Appliances
Moeller Instrument Co.
Morey & Jones, Ltd.
Precision Scientific
Precision Therm.
Rascher & Betzold
Refinery Supply Co.
Sargent & Co.
Scientific Inst. Co.
Simplex Valve & Meter
Specialty Glass Co.
Superior Meter Co.
Tagliabue Mfg. Co.
Trerice Co.
Trimount Instrument
Uehling Inst. Co.
Vapor Recovery Systems
Wilkens-Anderson Co.

MANOMETERS, U-tube, Metal
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Mason-Neilan Regulator
Precision Therm. & Inst.
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Fidelity Mach. Co.
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Durant Mfg. Co.
Minneapolis Elec. & Const.
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Cambridge Inst. Co.
Clough-Brengle Co.
General Elec. Co.
General Radio Co.
Ill. Testing Labs.
Industrial Instruments
Martindale Electric Co.
Rawson Electrical Inst.
RCA Manufacturing Co.
Sensitive Research Inst.
Shallcross Mfg. Co.
Sticht Co., Inc.
Weston Elec. Inst. Corp.

MEGOHM VOLTMETERS (See Voltmeters, Megohm)

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Central Scientific Co.
Corning Glass Works
Eimer & Amend
Ferner Co.
Fisher Scientific Co.
Humboldt Mfg. Co.
Machlett & Son
Microchemical Service
Parr Instrument Co.
Pfaltz & Bauer, Inc.
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METALLIC BELLOWS (See Bellows, Metallic)

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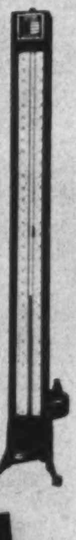

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CLEVELAND, OHIO

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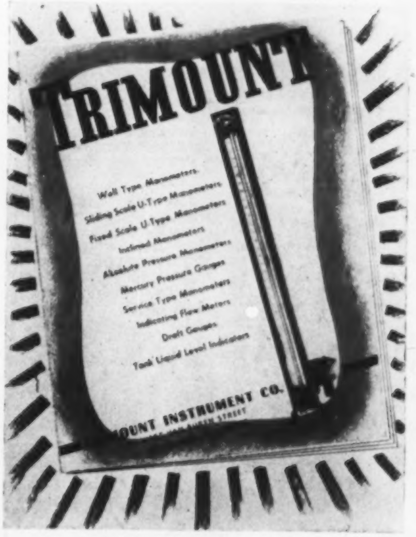

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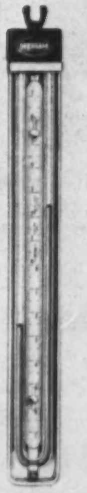

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Am. Paulin System
Friez & Sons
Fuess, Inc.
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G. M. Mfg. Co., Inc.
Gorrell & Gorrell
Green, Henry J.
Moeller Instrument Co.
Precision Therm.
Stewart, M. C.
Taylor Inst. Cos.
Weksler Thermometer

METER LEVELING SADDLES
Robinson Orifice Fitting

METER PROVERS, Gas
American Meter Co.
Lambert Meter Co.
Pgh. Equitable Meter Co.
Superior Meter Co.

METER STICKS
Lufkin Rule Co.
Weber Co.

METERS, Acid (See Acidimeters)

METERS, Ampere Hour (See Ampere Hour Meters)

METERS, Coal (See Coal Meters)

METERS, Coin Operated
International Register
Landis & Gyr, Inc.

METERS, Compressed Air
American Meter Co.
Bailey Meter Co.
Builders-Providence
Fischer & Porter
Mason-Neilan Regulator
N. J. Meter
Taylor Inst. Cos.

METERS, Condensation
Am. Dist. Steam Co.
Bailey Meter Co.
Buffalo Meter Co.
Central Station Steam
Fischer & Porter
Henszey Co.
Taylor Inst. Cos.

METERS, Conductivity (See Conductivity Meters)

METERS, Consumer's, Electric
General Elec. Co.
Westinghouse Elec. & Mfg.

METERS, Consumer's, Gas
American Meter Co.
Lambert Meter Co., Inc.
Superior Meter Co.

METERS, Current, Air & Gas
American Meter Co.
Fischer & Porter
Mason-Neilan Regulator
Pgh. Equitable Meter Co.

METERS, Current, Liquid
American Meter Co.
Bowser & Co.
Builders-Providence
Eclipse Aviation
Fischer & Porter
Keuffel & Esser Co.
Leupold & Stevens
Mason-Neilan Regulator
National Meter Co.
Neptune Meter Co.
Pgh. Equitable Meter Co.
Scientific Inst. Co. (Calif.)
Uehling Instrument Co.
Worthington-Gamon Meter

METERS, Decibel (See Sound Level Meters)

METERS, Demand, Electric
Electric Indicator Co.
Esterline-Angus Co.
General Elec. Co.
HD Elec. Co.
Landis & Gyr, Inc.
Lincoln Meter Co.
Sangamo Electric Co.
Therm-Electric Meters Co
Westinghouse Elec. & Mfg.

METERS, DEMAND, Gas
American Meter Co.
Bailey Meter Co.
Bendix Marine Products
Lambert Meter Co.
Mason-Neilan Regulator
Pgh. Equitable Meter Co.
Superior Meter Co.

METERS, Demand Limiting, Automatic
American Meter Co.
Annis Co.
Esterline-Angus Co.
General Elec. Co.
Landis & Gyr, Inc.
Lincoln Meter Co.
Mason-Neilan Regulator
Therm-Electric Meter
Westinghouse Elec. & Mfg.

METERS, Earth Current
Geophysical Inst. Co.
Heiland Research
Rawson Electrical Inst.
Shallcross Mfg. Co.

METERS, Electronic
Ballantine Labs.
Boonton Radio Corp.
Cambridge Inst. Co.
Clough-Brengle Co.
Hathaway Instrument
Hewlett-Packard
RCA Manufacturing Co.
Technicraft Engg.
Weston Elec. Inst. Co.

METERS, Flow (See Flowmeters)

METERS, Fluorescence
Coleman Electric
Schaar & Co.

METERS, Footage (See Counters, Footage)

METERS, Foot-candle (See Foot-candle Meters)

METERS, Frequency (See Frequency Meters)

METERS, Gas (See Gas Meters)

METERS, Gas, Dry Test
American Meter Co.
Lambert Meter Co.
Pgh. Equitable Meter Co.
Superior Meter Co.
Tagliabue Mfg. Co.

METERS, Gas, Integrating
American Meter Co.
Bailey Meter Co.
Brown Inst. Co.
Builders-Providence
Fischer & Porter
Foxboro Co.
Lambert Meter Co.
Mason-Neilan Regulator
Superior Meter Co.
Taylor Inst Cos.

METERS, Gas, Wet Test
American Meter Co.
Lambert Meter Co.
Precision Scientific
Superior Meter Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.

METERS, Gas, Station
American Meter Co.
Bowser & Co.
Pgh. Equitable Meter Co.

METERS, Gasoline (See Meters, Liquid)

METERS, High Pressure & High Pressure Distribution
Buffalo Meter
Pgh. Equitable Meter Co.
Simplex Valve & Meter

METERS, Hydrogen Ion (See Hydrogen Ion Determination Instruments)

METERS, LIGHT (See Foot-candle Meters, Illumination Indicators and Recorders, Light Meters, etc.)

METERS, Liquid, Volumetric Types, Nutating Piston or disk
Badger Meter Co.
Buffalo Meter Co.
National Meter Co.
Neptune Meter Co.
Pgh. Equitable Meter
Read Machinery Co.
Worthington Gamon

METERS, Liquid, Volumetric Types, Oscillating Piston
Badger Meter Co.
Brodie Co., Inc.
National Meter Co.
Neptune Meter Co.
Worthington-Gamon Met.

METERS, Liquid, Volumetric Types, Propeller
Sparling, R. W.

METERS, Liquid, Volumetric Types, Reciprocating Piston
Bowser & Co., Inc.
Ralph N. Brodie Co., Inc.
Pgh. Equitable Meter
Ruska & Co., Inc.
Worthington Gamon

METERS, Liquid, Volumetric, Rotary Piston
Badger Meter Co.
Bowser & Co., Inc.
Neptune Meter Co.
Pgh. Equitable Meter
Smith Meter Co.

METERS, Liquid, Volumetric, Special for Extremely Low Flow
Bowser & Co., Inc.
Commercial Eng. Labs.
Fischer & Porter
Fluid Meters, Inc.
Gauthier, Donat A.
McCord Radiator & Mfg.
National Meter Co.

METERS, Liquid, Weighing
Richardson Scale Co.

METERS, Mileage
Gauthier, Donat A.
Jaeger Watch Co.
Ohmer Register
Veeder-Root, Inc.

METERS, Multi-Rate
Landis & Gyr, Inc.

METERS, Oil (See Meters, Liquid)

METERS, Orifice (See Flowmeters, Orifice)

METERS, Oxygen (See 1—Gas Analyzer; 2—Gas Meters)

METERS, Pitot Tube (See Flowmeters, Pitot Tube)

METERS, Positive Displacement (See Gas Meters, Positive and Liquid Meters, Volumetric)

METERS, Prepayment
American Meter Co.
Landis & Gyr, Inc.

METERS, Proportional
American Meter Co.
Bristol Co.
Fischer & Porter
Foxboro Co.
Mason-Neilan Regulator
National Meter Co.
Pgh. Equitable Meter Co.
Taylor Inst. Cos.

METERS, Reactive Component
Andrew, Victor J.
General Elec. Co.
Landis & Gyr, Inc.
R C A Manufacturing
Therm-Electric Meters Co
Westinghouse Elec. & Mfg.
Weston Electrical Inst.

METERS, Rotary Displacement
Bowser & Co.
Neptune Meter Co.
Pgh. Equitable Meter Co.

METERS, Sewage
American Meter Co.
Bailey Meter Co.
Builders-Providence
Mason-Neilan Regulator
Morey & Jones, Ltd.
Pgh. Equitable Meter Co.
Simplex Valve & Meter
Taylor Inst. Cos.

METERS, Shunt
Builders-Providence
Columbia Elec. Mfg.
Daven Co.
Instrument Resistors
Rawson Electrical Inst.
Shallcross Mfg.
Wheelco Inst. Co.

METERS, Sight Flow
Bowser & Co., Inc., S. F.
Everson Mfg. Co.
Fischer & Porter Co.
Henszey Co.
Selas Co.

METERS, Station
American Meter Co.

METERS, Steam (See Flowmeters, Steam)

METERS, Time
Cramer & Co., Inc.
Elec. Tachometer Corp.
General Elec. Co.
Industrial Timer Corp.
Jaeger Watch Co.
Luers, J. Milton
National Instrument Co.
Paragon Electric Co.
Rawson Electrical Inst.
Rowe Radio Res. Lab.
Thompson Clock Co.
Waltham Watch
Warren Telechron Co.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.

METERS, Ultraviolet Radiation
General Elec. Co.
Westinghouse Elec. & Mfg.

METERS, Venturi (See Flowmeters, Venturi)

METERS, V-notch (See Flowmeters, Weir)

METERS, Volumetric, Positive Displacement (See Gas Meters, Positive; see Meters, Liquid, Volumetric)

METERS, Water (See Liquid Meters, Volumetric; also Flowmeters, Liquid)

METERS, Watt-Hour
Duncan Electric
General Elec. Co.
Landis & Gyr, Inc.
Sangamo Electric Co.
Westinghouse Elec. & Mfg.

METERS, Weir (See Flowmeters, Weir)

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Clough-Brengle Co.

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Hoffman Co., S. O.
Industrial Instruments
Mico Instrument Co.
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Coats Mach. Tool Co.
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Amthor Test. Mach.
Coats Mach. Tool Co.
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Haines Gauge Co.
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Randall, Frank E.
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Instrument Specialties

MICROMETERS, External
Instrument Specialties
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MICROMETERS, FLYING
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MICROMETERS, Internal
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Coats Mach. Tool Co.
Lufkin Rule Co.
Micro Products Co.
Millers Falls Co.
Pacific Tool & Supply
Poole Manufacturing
Reed Small Tool Works
Scherr Co., Inc.
Zeiss, Inc., Carl

MICROMETERS, Optical
Bausch & Lomb Optical
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Gaertner Scientific Corp.
Jarrell-Ash Co.
Keuffel & Esser Co
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Fish-Schurman Co.
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Leitz, Inc.
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Zeiss, Inc.

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Fuess, Inc.
Leitz, Inc.
Pfaltz & Bauer, Inc.
R C A Manufacturing
Scherr Co., Inc.
Spencer Lens Co.
Zeiss, Inc., Carl

MICROSCOPES Biological (See Microscopes, Binocular)

MICROSCOPES, Brinell
Bausch & Lomb Optical
Detroit Testing Mach.
Fisher Scientific Co.
Fuess, Inc.
Gaertner Scientific Corp.
Leitz, Inc.
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MICROSCOPES, Dark Field
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METERS *for* GAS—WATER—OIL—GASOLINE

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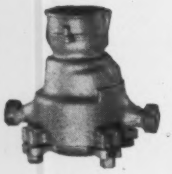
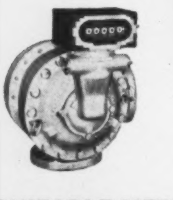
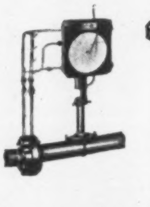
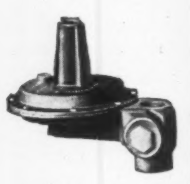

Pittsburgh Water Meter


Pittsburgh Rotocycle Gasoline Meter

EMCO Domestic Gas Meter


EMCO Orifice Meter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MEASURES Accurately to .00005" THICKNESS of

Illustrated is Model M-25 with 1/8" diameter anvil, requiring merely 2 oz. anvil pressure.

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The simplicity of operation of this super sensitive (to .00005") Electronic Micrometer makes it possible for any worker to repeat thickness readings on materials which cannot be measured accurately under conventional "pressure" measuring instruments.

Lever at left retracts lower anvil, allowing insertion and removal of material without moving the dial. The work is held under constant predetermined contract pressure, and as soon as reading point is reached, the bull's-eye in the base automatically lights. Dial adjustment to "flicker on and off" position gives final correct dial reading — independent of "feel" on dial. Numerical units on the dial register thousandths and each division is a tenth of a thousandth. The hairline can cut this even finer.

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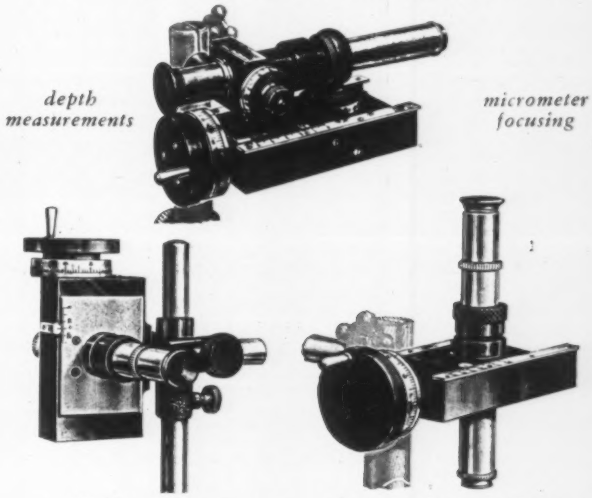
fitted with microscope or telescope, permit—



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Brush Development Co.
Builders-Providence
Elec. Tachometer Corp.
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RCA Manufacturing

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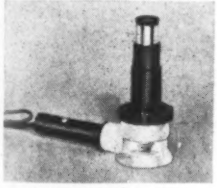

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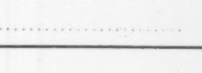

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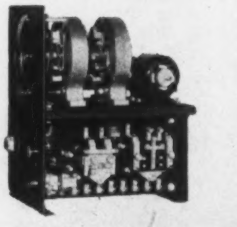

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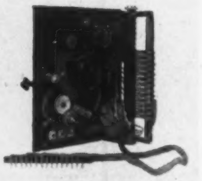
Precision motor required for this Square D welding timer, set to utilize one part of an alternating current cycle.



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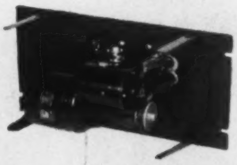

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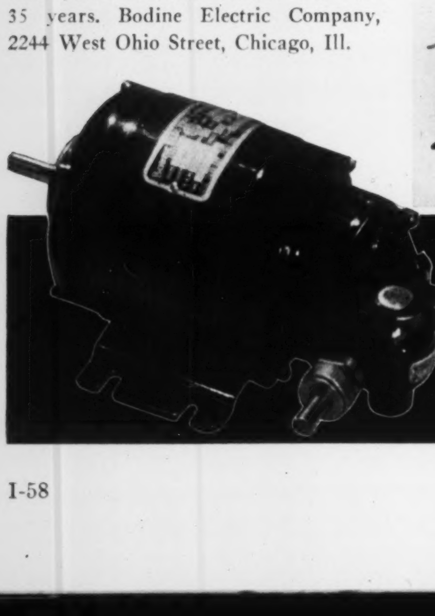
Dependable motor was essential to drive this H. O. Boehme radio beacon keying device, guiding airplanes to safe landings.



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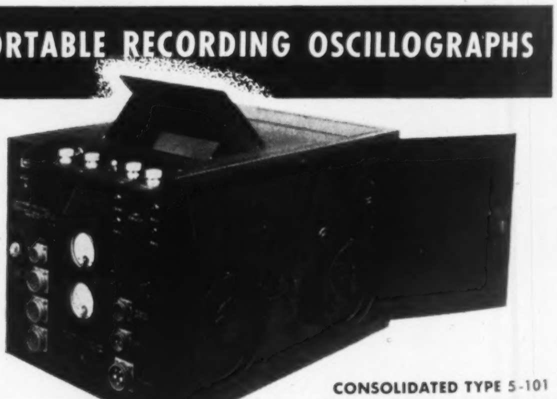

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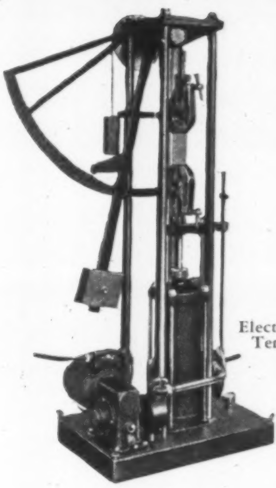

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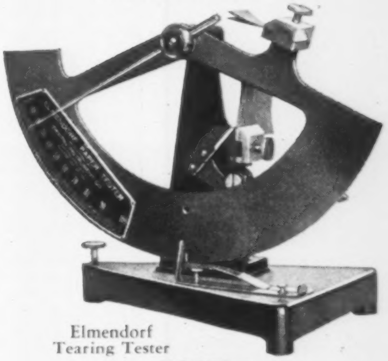

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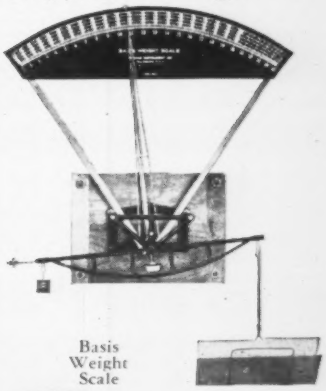

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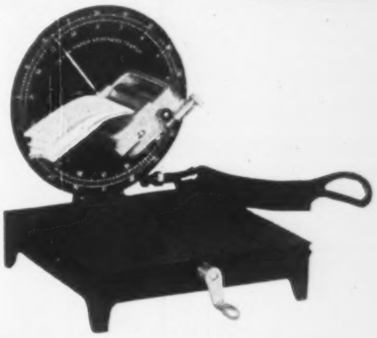

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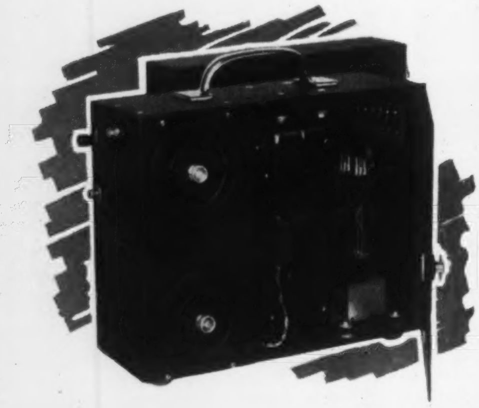

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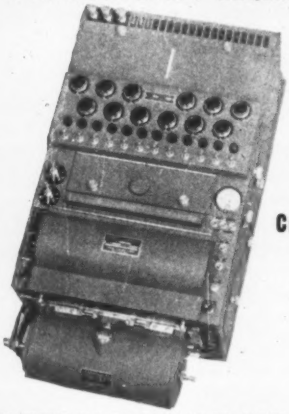

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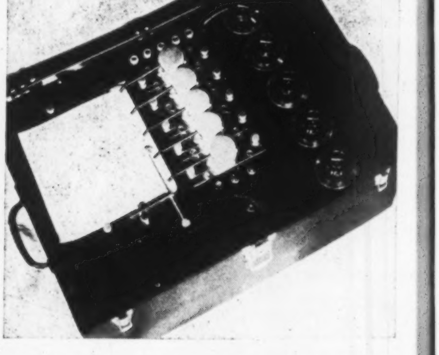

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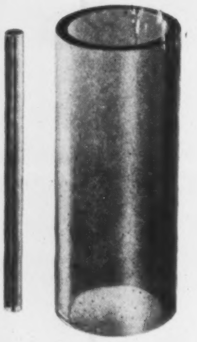

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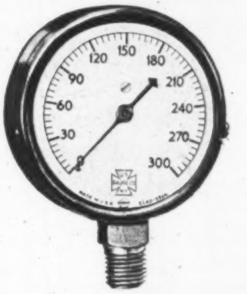

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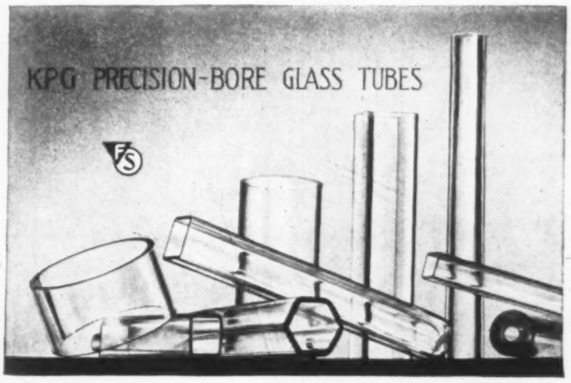

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Bristol Co.
Builders-Providence
Elec. Indicator Corp.
Elec. Tachometer Corp.
Foxboro Co.
RCA Manufacturing
Westinghouse Elec. & Mfg.

POSTS, BINDING (See Connectors)

POTENTIAL DETECTORS (See Detectors, Potential)

POTENTIOMETERS, Automatic Control
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Coleman Elec. Co.
Dickson Co.
Foxboro Co.
Leeds & Northrup Co.
Lewis Engg. Co.
Mason Neilan Regulator
Spence Engineering Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Weston Elec. Inst. Corp.
Wheelco Inst. Co.

POTENTIOMETERS, Automatic Self Balancing
Bailey Meter Co.
Bristol Co.
Electronic Prod. Co.
Foxboro Co.
Leeds & Northrup Co.
Lewis Engg. Co.
Tagliabue Mfg. Co.
Weston Elec. Inst. Corp.

POTENTIOMETERS, Indicating
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Cambridge Inst. Co.
Dickson Co.
Foxboro Co.
General Elec. Co.
Hellige, Inc.
J-B-T Insts., Inc.
Leeds & Northrup Co.
Lewis Engg. Co.
Remler Co., Ltd.
Rubicon Co.
Tagliabue Mfg. Co.
Thwing-Albert Instrument
Wheelco Inst. Co.
Weston Elec. Inst. Corp.

POTENTIOMETERS, Recording
American Inst. Co.
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Clarostat Mfg. Co.
Foxboro Co.
Leeds & Northrup Co.
Lewis Engg. Co.
Mason Neilan Regulator
Tagliabue Mfg. Co.
Thwing-Albert Instrument
United Cinephone Corp.

POWDERED MATERIALS MEASUREMENTS (See Granular Materials)

POWER FACTOR INDICATORS
Clough-Brengle Co.
Elec. Facilities, Inc.
General Elec. Co.
Hickok Elec. Inst. Co.
Leeds & Northrup Co.
Roller-Smith Co.
Sensitive Research Inst.
Westinghouse Elec. & Mfg.
Weston Electrical Inst.

POWER FACTOR RECORDERS
Elec. Facilities Inc.
Esterline-Angus Co.
General Elec. Co.
Leeds & Northrup Co.
Roller-Smith Co.
Westinghouse Elec. & Mfg.

POWER FACTOR REGULATORS
Leeds & Northrup Co.
Vaughn-G. E. Witt Co.

POWER-LEVEL INDICATORS
Amplifier Co.
Clough-Brengle Co.
De Jur-Amsco
General Elec. Co.
General Radio Co.
Hickok Elec. Inst. Co.
RCA Manufacturing
Shallcross Mfg. Co.
Sound Apparatus Co.
Westinghouse Elec. & Mfg.

PRECISION-BORE GLASS TUBING
Ace Glass Inc.
Fischer & Porter
Fish-Schurman Co.
Scientific Glass

PRESSES, Laboratory
American Inst. Co.
Baldwin-Southwark Corp.
Central Scientific Co.
Eimer & Amend
Hydraulic Press Co.
Laboratory Specialties
Microchemical Service
Williams Apparatus

PRESSES, PELLET
Central Scientific Co.
Eimer & Amend
Hannifin Mfg. Co.
Parr Instrument Co.
Precision Scientific
Stokes Machine Co.

PRESSURE CONTROLLERS, AUTOMATIC (See Controllers, Automatic, Pressure)

PRESSURE, High (Above 1000 lbs.) Indicators
Abercrombie Pump Co.
Arca Regulators, Inc.
Atlas Valve Co.
Bailey Meter Co.
Baldwin-Southwark Corp.
Brooke Eng. Co.
Brown Inst. Co.
Clapp Instrument
Crosby Steam Gage Co.
Fisher Governor Co.
Foxboro Co.
Heise Bourdon Tube Co.
Kollsman Inst. Co.
Kurman Electric Co.
Linde Air Products Co.
(Cont'd)

PRESSURE, High, Indicators (Cont'd)
Marsh Corp.
Mason Neilan Regulator
McAlear Mfg. Co.
Pioneer Instrument
RCA Manufacturing Co.
Republic Flow Meters
Star Brass Mfg. Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Thrush & Co., H. A.
Trerice Co.
Wheelco Instruments

PRESSURE, HIGH (Above 1000 lbs.) Recorders
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Baldwin-Southwark Corp.
Bristol Co.
Brown Inst. Co.
Builders-Providence
Cambridge Inst. Co.
Cash Co.
Commercial Engg. Labs.
Crosby Steam Gage Co.
Dickson Co.
Esterline-Angus Co.
Foxboro Co.
Hydraulic Press Co.
Kurman Electric Co.
Linde Air Products Co.
Marsh Corp.
Mason-Neilan Regulator
Republic Flow Meters Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Trerice Co.
Wheelco Instruments

PRESSURE, HIGH (Above 1000 lbs.) Testing Devices
Bailey Meter Co.
Baldwin-Southwark Corp.
Builders-Providence
Crosby Steam Gage Co.
Foxboro Co.
Kurman Electric Co.
Parr Instrument Co.
Pioneer Instrument
RCA Manufacturing Co.
Refinery Supply Co.
Walter Ruska & Co., Inc.
Star Brass Mfg. Co.

PRESSURE INDICATORS, Bellows
Autocall Co.
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Crosby Steam Gage Co.
Defender Automatic Reg.
Dickson Co.
Mason-Neilan Regulator
Morey & Jones, Ltd.
Pioneer Instrument
Precision Therm.
Tagliabue Mfg. Co.
Taylor Inst. Cos.

PRESSURE INDICATORS, Bourdon-tube
Bailey Meter Co.
Baldwin-Southwark Corp.
Bristol Co.
Brown Inst. Co.
Builders-Providence
Clapp Instrument
Crosby Steam Gage Co.
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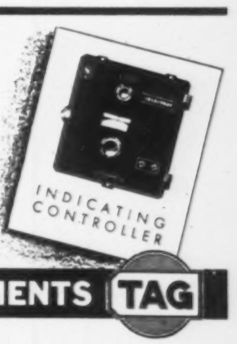
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Heise Bourdon Tube Co.
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Kollsman Inst. Co.
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Pioneer Instrument
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Tagliabue Mfg. Co.
Taylor Inst. Cos.
Trerice Co.
Wheelco Instruments

PRESSURE INDICATORS, Diaphragm, etc.
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Brown Inst. Co.
Dickson Co.
Foxboro Co.
Kollsman Inst. Co.
Marsh Corp., Jas. P.
Mason-Neilan Regulator
Morey & Jones, Ltd.
Pioneer Instrument
Powers Regulator Co.
Rochester Mfg. Co.
Tagliabue Mfg. Co.
Taylor Instrument Cos.

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General Elec. Co.
Kurman Electric Co.
Rubicon Co.

PRESSURE INDICATORS, Inverted-bell
Bacharach Indus. Inst.
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Dickson Co.
Foxboro Co.
Mason-Neilan Regulator
Taylor Inst. Cos.
Uehling Inst. Co.

PRESSURE INDICATORS, Membrane
Bailey Meter Co.
Dickson Co.
Mason-Neilan Regulator

PRESSURE INDICATORS, Piezoelectric
Batcher, Ralph R.
Brush Development Co.
Commercial Engg. Labs.
RCA Manufacturing Co.

PRESSURE INDICATORS, Piston, Weight-loaded
American Inst. Co.
Bailey Meter Co.
Hagan Corp.
Pioneer Instrument
Ruska & Co.

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Detroit Air Meter Co.
Dwyer Mfg. Co.
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Meriam Co.
Morey & Jones, Ltd.
Pioneer Instrument
Precision Therm.
Uehling Instrument Co.

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Commercial Engg. Labs.

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Bacharach Indus. Inst.
Bailey Meter Co.
Connelly Iron Sponge
Detroit Air Meter Co.
Dwyer Mfg. Co.
Friez & Sons
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Moeller Instrument Co.
Morey & Jones, Ltd.
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Refinery Supply Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Trerice Co.
Uehling Instrument Co.

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Bristol Co.
Brown Inst. Co.
Crosby Steam Gage
Dickson Co.
Esterline-Angus Co.
Manning, Maxwell & Moore
Mason-Neilan Regulator
Morey & Jones, Ltd.
Republic Flow Meters
Tagliabue Mfg. Co.
Taylor Inst. Cos.

PRESSURE RECORDERS, Bourdon tube
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Baldwin-Southwark Corp.
Bristol Co.
Brown Inst. Co.
Builders-Providence
Crosby Steam Gage
Dickson Co.
Esterline-Angus Co.
Foxboro Co.
Gotham Inst. Co.
Improved Gauge Mfg. Co.
Kenyon Instrument Co.
Leeds & Northrup Co.
Manning, Maxwell & Moore
Marsh Corp., Jas. P.
Mason-Neilan Regulator
Morey & Jones, Ltd.
Republic Flow Meters
Star Brass Mfg. Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Thrush & Co., H. A.
Trerice Co.

PRESSURE RECORDERS, Capsular spring
Tagliabue Mfg. Co.

PRESSURE RECORDERS, Diaphragm
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Bristol Co.
Brown Inst. Co.
Foxboro Co.
Dickson Co.
Marsh Corp., Jas. P.
Mason-Neilan Regulator
Morey & Jones, Ltd.
Tagliabue Mfg. Co.
Wheelco Instruments

PRESSURE RECORDERS, Electrical-resistance
Republic Flow Meters

PRESSURE RECORDERS, Inverted-bell
Bacharach Indus. Inst.
Bailey Meter Co.
Bristol Co.
Dickson Co.
Foxboro Co.
Leeds & Northrup Co.
Mason-Neilan Regulator
Taylor Inst. Cos.
Uehling Instrument Co.

PRESSURE RECORDERS, Membrane
Mason-Neilan Regulator

PRESSURE RECORDERS, Piezoelectric
Brush Development Co.
RCA Manufacturing Co.

PRESSURE RECORDERS, Piston, weight-loaded
Bailey Meter Co.

PRESSURE RECORDERS, Single-tube liquid column
Trerice Co.
Uehling Instrument Co.

PRESSURE RECORDERS, Spring-loaded piston
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Baldwin-Southwark Corp.
Commercial Engg. Labs.
Esterline-Angus Co.

PRESSURE RECORDERS, U-tube
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Brown Inst. Co.
Foxboro Co.
Manning, Maxwell & Moore
Mason-Neilan Regulator
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Tagliabue Mfg. Co.
Taylor Inst. Cos.
Trerice Co.
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Unique construction enables operator to rapidly determine temperature even on minute spots, fast moving objects or the smallest streams; no correction charts, no accessories, no upkeep.

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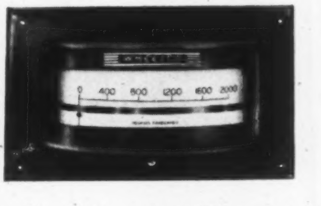

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RCA Manufacturing
Spencer Lens Co.

PROJECTORS, Film Slide, Lantern Slide & Opague Object
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Burton Mfg. Co.
Fish-Schurman Corp.
Leitz, Inc.
Spencer Lens Co.
Zeiss, Inc.

PROJECTORS, Rectifying
Abrams Instrument

PRONY BRAKES, Hydraulic
Taylor Manufacturing

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PROTRACTORS, Course
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Bliss & Co.
Eastern Science Co.
Kenyon Instrument Co.
Keuffel & Esser Co.
Marine Compass Co.
Negus, T. S. & J. D.
Warren-Knight Co.

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PROTRACTORS, Transparent (See Drawing Instruments)

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Pittsburgh Equit. Meter
Superior Meter Co.

PROVERS, Water Meter
Pittsburgh Equit. Meter

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Morehouse Machine Co.
Olsen Testing Machine
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Electro-Medical Lab.
General Radio Co.
Gorrell & Gorrell
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Friez & Sons
Fuess, Inc.
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Parks-Cramer Co.

PSYCHROMETERS, Electric (See Psychrometers, Aspiration)

PSYCHROMETERS, Recording (See Hygrometers, Recording)

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American Moistening Co.
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Fried & Lustig
Friez & Sons
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Eastern Engineering

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Lewis Engineering
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Lewis Engg. Co.
Roller-Smith Co.
Rubicon Co.
Tagliabue Mfg. Co.
Thwing-Albert Inst. Co.
Wheelco Inst. Co.

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Ferner Co.
Partlow Corp.
Tagliabue Mfg. Co.

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Bristol Co.
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Burling Inst. Co.
Burrell Tech. Supply
De Jur-Amsco
Electronic Prod. Co.
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Leeds & Northrup Co.
Lewis Engg. Co.
Partlow Corp.
Pyrometer Inst. Co.
Roller-Smith Co.
Rubicon Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Thwing-Albert Instrument
Wheelco Inst. Co.

PYROMETERS, Millivoltmetric
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Taylor Inst. Cos.
Thwing-Albert Instrument
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Brown Inst. Co.
Burrell Technical Supply
Cambridge Inst. Co.
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Burrell Technical Supply
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Pyrometer Instrument Co.
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Wheelco Inst. Co.

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Cambridge Inst. Co.
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Dickson Co.
Foxboro Co.
J-B-T Insts., Inc.
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Lewis Engg. Co.
Rubicon Co.
Tagliabue Mfg. Co.
Thwing-Albert Instrument
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Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Cambridge Inst. Co.
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Model 70-PO

This new type of potentiometer-pyrometer gives immediate indications of temperatures from sub-zero to 3,000 degrees Fahrenheit with thermocouples. Guaranteed accuracy one-half of one percent of total scale deflection. Eliminates many balancing operations – requires no standard cell. Exceptionally rugged – will withstand vibration and wide changes in ambient temperatures. Write for Bulletin 540.

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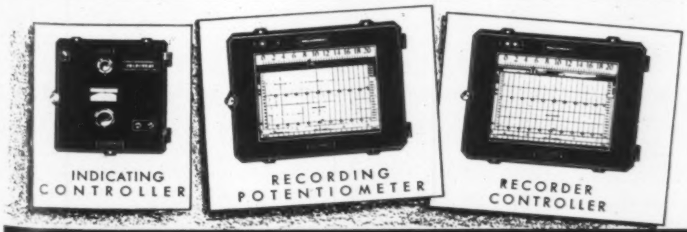

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Better Temperature Control . . .
More Accurate Temperature Record

The simple, modern design of rugged CELECTRAY Pyrometers offers industry—
High Sensitivity Control—Accurate and Fast Recording.
Write for Catalog No. 1101-1.

C. J. TAGLIABUE MFG. CO.
Park & Nostrand Avenues, Brooklyn, N. Y.

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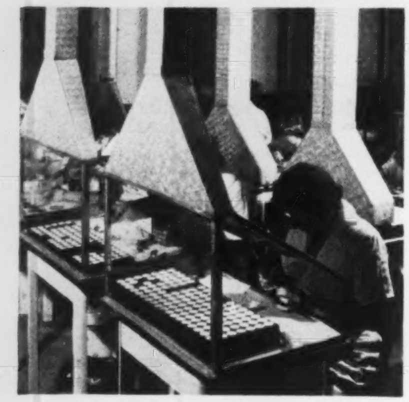

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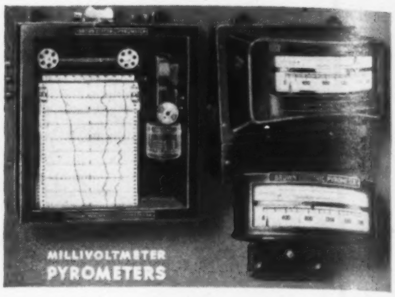

For Controlling, Recording and Indicating Temperatures from 0 to 3000°F.

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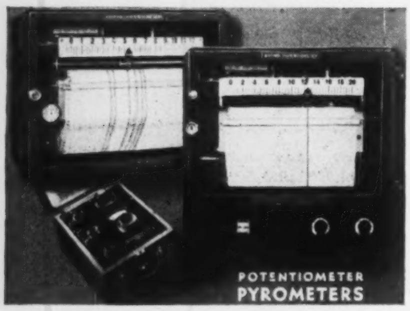
Charts and scales for a wide variety of ranges are available, from a minimum temperature span of 800°F. to a maximum span of 3000°F. Corresponding Centigrade scales and charts are also available.

Pyrometer accessories, such as thermocouples and extension lead wire, furnished with instruments to meet the requirements of each job.

Write for Catalog. THE BROWN INSTRUMENT COMPANY, *a division of Minneapolis-Honeywell Regulator Co.*, 4482 Wayne Avenue, Philadelphia, Pa.

BROWN PYROMETERS
AND
MINNEAPOLIS-HONEYWELL CONTROL SYSTEMS
To Measure and Control is to Economize



For Controlling, Recording and Indicating Temperatures from —150°F. to +3200°F.

An extremely accurate and dependable instrument, designed and built for industrial service. Operating on the Potentiometer Principle, the instrument can be located practically any distance from the point of temperature measurement (thermocouple location) without affecting its accuracy or dependability.

Charts and scales for a wide variety of ranges are available, from a minimum temperature span of 300° to a maximum span of 3000°F. Corresponding Centigrade scales and charts are also available.

Pyrometer accessories, such as thermocouples and extension lead wire, furnished with instruments to meet the individual requirements of each job.

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BROWN PYROMETERS
AND
MINNEAPOLIS-HONEYWELL CONTROL SYSTEMS
To Measure and Control is to Economize

PYROMETERS, Radiation, Indicating
Bachrach Industrial Inst.
Bristol Co.
Brown Inst. Co.
Cambridge Inst. Co.
General Elec. Co.
Leeds & Northrup Co.
Pyrometer Instrument Co.
Thwing-Albert Instrument
Wheelco Inst. Co.

PYROMETERS, Radiation, Recording
Bachrach Industrial Inst.
Bristol Co.
Brown Inst. Co.
Cambridge Inst. Co.
General Elec. Co.
Leeds & Northrup Co.
Pyrometer Instrument Co.
Thwing-Albert Instrument

PYROMETERS, Thermoelectric, Immersion
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Cambridge Inst. Co.
De Jur-Amsco
Elematic Sales Corp.
General Elec. Co.
Ill. Testing Labs.
J-B-T Insts., Inc.
Leeds & Northrup Co.
Lewis Engg. Co.
Partlow Corp.
Pyrometer Inst. Co.
Roller-Smith Co.
Tagliabue Mfg. Co.
Thwing-Albert Instrument
Wheelco Instruments
Woermann-Schuchhardt

PYROMETERS, Thermoelectric, Indicating
Am. Gas Furnace Co.
Bailey Meter Co.
Bristol Co.
Brown Inst. Co.
Cambridge Inst. Co.
De Jur-Amsco Corp.
Elematic Sales Corp.
Foxboro Co.
Hebler Co.
Hoskins Mfg. Co.
Ill. Testing Labs.
J-B-T Insts., Inc.
Leeds & Northrup Co.
Lewis Engg. Co.
Partlow Corp.
Pyrometer Instrument Co.
Roller-Smith Co.
Rubicon Co.
(Cont'd)

PYROMETERS, Thermoelectric, Indicating
(Cont'd)
Scientific Inst. Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Thwing-Albert Instrument
Western Instrument Co.
Wheelco Inst. Co.

PYROMETERS, Thermoelectric, Recording & Controlling
Bacharach Indust. Inst.
Bailey Meter Co.
Beck Co.
Bristol Co.
Brown Inst. Co.
Cambridge Inst. Co.
Engelhard, Chas.
Foxboro Co.
General Elec. Co.
Ill. Testing Labs.
Leeds & Northrup
Lewis Engg. Co.
Mason-Neilan Regulator
Partlow Corp.
Pyrometer Instrument Co.
Tagliabue Mfg. Co.
Thwing-Albert Instrument

PYROMETERS, Thermoelectric, Surface Contact
Bailey Meter Co.
Bristol Co.
Cambridge Inst. Co.
Elematic Sales Corp.
Foxboro Co.
General Elec. Co.
Ill. Testing Labs.
J-B-T Instruments
Lewis Engg. Co.
Pyrometer Instrument Co.
Schweitzer & Conrad
Tagliabue Mfg. Co.
Thwing-Albert Instrument
Wheelco Instruments

PYROMETRIC CONES
(See Cones, Pyrometric)

Q METERS
Boonton Radio

QUARTZ, Fused Quartz Apparatus
Hanovia Chem. & Mfg.
Thermal Syndicate Ltd.

RACKS, STEEL, For Capacitors, Resistors, Transformers, etc.
Falstrom Co.

RADIO-ACTIVE DIALS & POINTERS
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General Luminescent

INDUSTRIAL OVENS

FURNACES PYROMETERS

TESTING MACHINES

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All Makes and Types of Above

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INDUSTRIAL X-RAY SERVICE

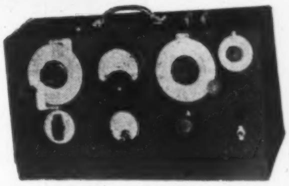
•

CLAUD S. GORDON COMPANY

Cleveland Chicago Indianapolis

INSTRUMENTS

for Precision Measuring



Q-METER

TYPE 160-A

Frequency Range: 50kc. to 75mc. may be extended with external oscillator down to 1 kc.

Range of Q Measurements, Coils: 50 to 625.

Accuracy: In general ± 5%

Range of Q Tuning Condenser: 30-450 mmf. (Vernier Condenser: ± 3 mmf.)

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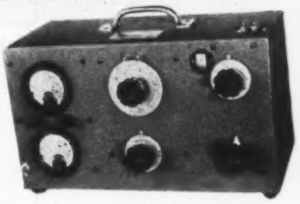
DESIGN
and PRODUCTION
of radio and allied equipment

Choose your test apparatus from these DEPENDABLE and DIRECT READING instruments

CATALOGUE B UPON REQUEST



Q-METER

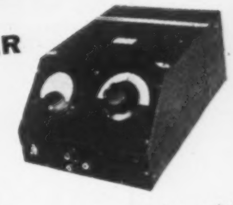
TYPE 170-A

Frequency Range: 30 mc. to 200 mc.

Range of Q Measurements, Coils: 100-1200

Accuracy: In general ± 10%.

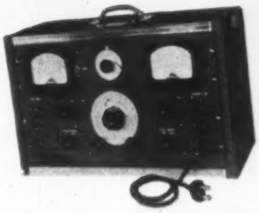
Range of Q Tuning Condenser: 10-60 mmf.



QX CHECKER

TYPE 110-A

The factory counterpart of the Q-Meter. Compares fundamental characteristics of inductance or capacitance and Q under production line conditions with a high degree of accuracy, yet quickly and simply. Insures uniform parts held within close tolerances. Frequency range 100 kc. to 25 mc.



FREQUENCY MODULATED SIGNAL GENERATOR

TYPE 150 SERIES

Type	Frequency.
150 A	41-50 mc. and 1-10 mc.
151 A	30-40 mc. and 1-9 mc.
152 A	20-28 mc. and 0.5-5 mc.
154 A	27-39 mc. and 1-7 mc.

Developed specifically for use in design of F. M. equipment. Frequency and Amplitude Modulation available separately or simultaneously.

BEAT FREQUENCY GENERATOR

TYPE 140-A

A single compact instrument which provides wide frequency and voltage coverage of generated signals.

Frequency Range: 20 cycles to 5 mc. in two frequency ranges.

Output Voltage Range: 1 millivolt to 32 volts.

Accuracy: ±3%.

Output Power: One watt into external load.

BOONTON RADIO CORPORATION BOONTON, NEW JERSEY, U.S.A.

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ELECTRONIC EQUIPMENT

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— TELEPHONE BARCLAY-7-1840 —

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NEW YORK, N. Y.

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United Cinephone Corp.
Wallace & Tiernan

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De Jur-Amsco
Ferris Inst. Corp.
General Elec. Co.
Hickok Elec. Inst. Co.
Lampkin Laboratories
Measurement Corp.
Millen Mfg. Co.
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RCA Manufacturing Co.
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Simpson Elec. Co.
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RADIO-MICROMETERS (See Micrometers, Radio)

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McFarlin Co.
Metron Instrument
Pioneer Instrument
United Cinephone Corp.
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RADIO TUBE CHECKERS (See Checkers, Radio Tube)

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Fuess, Inc.
Green, Henry J.
Gurley, W. & L. E.
Keuffel & Esser Co.
Leupold & Stevens
Precision Therm.
Stewart, M. C.
Taylor Inst. Cos.
Warren-Knight Co.
White Co., Inc.

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Friez & Sons
Fuess, Inc.
Green, Henry J.
Leupold & Stevens
Taylor Inst. Cos.

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Kern Co.
Keuffel & Esser Co.
Kollmorgen Optical Co.
Leitz, Inc.
Precision Therm.
RCA Manufacturing
White Co., Inc.

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REACTANCE METERS
Andrew, Victor J.
General Radio Co.
Premier Crystal Labs.
RCA Manufacturing
Rubicon Co.

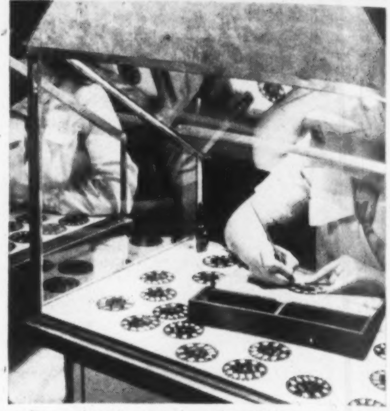
REACTIVE VOLT-AMPERE METERS, see Volt-ampere Meters, Reactive

READING LENSES, Thermometer & Burette (See Lenses, Reading)

RECORDERS (See object of measurement and control)

RECTIFIERS, Dry Disc
Am. Automatic Electric
Benwood Linze Co.
Control Corp.
Elec. Facilities, Inc.
General Elec. Co.
Mallory & Co.
Mellaphone Corp.
Raytheon Mfg. Co.
Standard Elec. Time
United Transformer Corp.

RECTIFIERS, Power
Amer. Automatic Elec. (Max.—5 amps.)
Applied Research Labs.
Benwood Linze
Dayton Acme Co.
Eclipse Aviation
Elec. Facilities, Inc.
Electro Products Labs.
General Elec. Co.
Mellaphone Corp.
Raytheon Mfg. Co.
RCA Manufacturing
United Transformer Corp.



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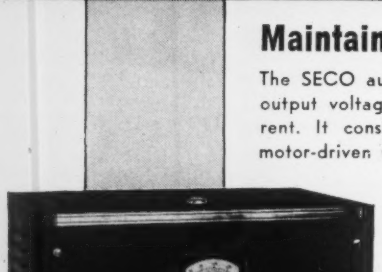
DIALS & POINTERS

Completely equipped radium studio. Well-trained and experienced operators available to work on quantity production runs.

Let us quote on your application problems. We can apply radio-active or other approved luminescent materials on your own dials, or can supply finished dials working from blueprints.

GENERAL LUMINESCENT
CORPORATION
638 Federal St., Chicago, Ill.



SECO *automatic*
VOLTAGE REGULATOR

Maintains a constant a-c line voltage

The SECO automatic voltage regulator maintains a constant output voltage with variations in input voltage or load current. It consists of a thyratron tube circuit controlling a motor-driven variable voltage transformer.

Available for 115, 230, or 440-volt circuits in capacities up to 75 KVA.

FEATURES
- High efficiency—low exciting current
- Output voltage and sensitivity both adjustable from front panel
- Quick response
- No critical mechanical adjustments

APPLICATIONS
- Manufacturing Equipment
- Electrical Testing
- Radio Equipment
- Fluorescent Lighting

Send for BULLETIN 163 SI

SUPERIOR ELECTRIC CO.
131 LAUREL ST. BRISTOL, CONN.

REGULATORS

Republic-Smoot regulators are supplied for the automatic control of pressure, rate of flow, speed of rotation, level of a liquid or the proportioning of two pressures, flows, etc., in a fixed ratio by mechanically operating a valve, damper, rheostat or various types of variable speed transmissions.

Republic-Smoot regulators may be either oil or air operated. Their extreme flexibility in application and the degree to which they meet the four requirements of sensitivity, power, speed and stability, had been responsible to a large degree for the outstanding success of Republic-Smoot control systems.

WRITE FOR DATA BOOK No. S-13

REPUBLIC FLOW METERS CO.
2249 DIVERSEY PKWY., CHICAGO, ILLINOIS

RECTIFIERS, Thermionic
American Automatic Elec.
Amplifier Co.
Andrew, Victor J.
Benwood Linze
Continental Elec. Co.
DuMont Labs., Inc., A.B.
Electro Products Labs.
Electrons, Inc.
Emby Products
General Elec. Co.
Hy-Ef Elec. Products
Mellaphone Corp.
Raytheon Mfg. Co.
RCA Manufacturing Co.
United Cinephone Corp.
United Transformer Corp.

REDUCING MOTIONS, ENGINE INDICATOR
Bacharach Indust. Inst.
Crosby Steam Gage Co.
Robertson, 3rd, J. L.
Trill Indicator Co.

REFLECTIONMETERS
Akatos, Inc.
Pfaltz & Bauer, Inc.

REFLECTOMETERS
Akatos, Inc.
American Inst. Co.
Higgins, Charles F.
Leeds & Northrup Co.
Photovolt Corp.

REFLECTORS, Aspherical
Am. Telescope Labs.
Baird Associates
Bausch & Lomb Optical
Fecker, J. W.
Fish-Schurman Co.
Fuess, Inc.
Perkin-Elmer Corp.

REFLECTORS, Concave
Am. Telescope Labs.
Baird Associates
Bausch & Lomb Optical
Buhl Optical
Clark & Sons
Fecker, J. W.
Fish-Schurman Co.
Fuess, Inc.
Perkin-Elmer Corp.
Tinsley Labs.

REFLECTORS, First Surface
Am. Telescope Labs.
Baird Associates
Bausch & Lomb Optical
Buhl Optical
Clark & Sons
Fecker, J. W.
Fish-Schurman Co.
Fuess, Inc.
Perkin-Elmer Corp.
Tinsley Labs.

REFLECTORS, Heat Resisting
Am. Telescope Labs.
Bausch & Lomb Optical
Fecker, J. W.
Fish-Schurman Co.
Fuess, Inc.
Perkin-Elmer Corp.

REFLECTORS, Parabolic
Am. Telescope Labs.
Baird Associates
Bausch & Lomb Optical
Clark & Sons
Fecker, J. W.
Fish-Schurman Co.
Fuess, Inc.
Perkin-Elmer Corp.
Tinsley Labs.
Weber Bros. Metal Works

REFLECTORS, Spherical
Am. Telescope Labs.
Baird Associates
Bausch & Lomb Optical
Buhl Optical
Clark & Sons
Fecker, J. W.
Fish-Schurman Co.
Fuess, Inc.
Perkin-Elmer Corp.
Tinsley Labs.

REFLECTORS, Stellite
American Telescope Labs.
Bausch & Lomb Optical
Fecker, J. W.
Kollmorgen Optical Co.
Perkin-Elmer Corp.

REFRACTOMETERS
Akatos, Inc.
Bausch & Lomb Optical
Central Scientific Co.
Fish-Schurman Corp.
Fuess, Inc.
Gaertner Scientific
Industro-Scientific Co.
Jarrell-Ash Co.
Spencer Lens Co.
Zeiss, Inc., Carl

REFRACTORY TUBES
Coors Porcelain Co.

REGULATORS, AUTOMATIC (See also Controls, Automatic; and object of measurement and control)

REGULATORS, AUTOMATIC, Air
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American Meter Co.
Arca Regulators, Inc.
Askania Regulator Co.
Bailey Meter Co.
Bastian-Blessing Co.
Belfield Co.
Boekel & Co.
Boylston Co.
Bristol Co.
Brooke Eng. Co.
Brown Inst. Co.
Cash Co.
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Davis Reg. Co.
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Hagan Corp.
Johnson Service Co.
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Ruggles-Klingemann
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Taylor Inst. Cos.
Vaughn-G.E. Witt Co.
Victor Equipment Co.
Watts Regulator Co.
White-Rodgers Electric
Wilgus Mfg. Co.

REGULATORS, AUTOMATIC, Atmospheric
Foxboro Co.
Mason-Neilan Regulator
Parks-Cramer Co.
Powers Regulator Co.
Robertshaw Thermostat

REGULATORS, AUTOMATIC, Boiler
Askania Regulator Co.
Bailey Meter Co.
Brooke Eng. Co.
Brown Inst. Co.
Cash Co.
Connelly Iron Sponge
Fisher Governor Co.
Foster Engg. Co.
Foxboro Co.
General Regulator Corp.
Hagan Corp.
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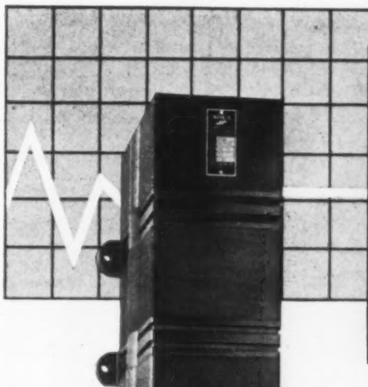


CONSTANT VOLTAGE
FOR YOUR LABORATORY . . . FOR YOUR PRODUCTION LINE . . . OR INCORPORATED IN YOUR PRODUCTS

Whether it's 1 VA for an instrument or 10 KVA for a production line—if your needs call for stable voltage at all times, SOLA CONSTANT VOLTAGE TRANSFORMERS will deliver for you.

Fully automatic, instantaneous in operation, SOLA CONSTANT VOLTAGE TRANSFORMERS have no moving parts and require no maintenance. They are self-protecting and cannot be damaged by short circuit. AND—they will maintain their output voltage to within a fraction of a percent of the specified value, even though the line voltage varies *as much as thirty percent.*

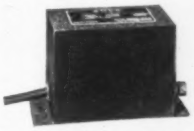
You can build a SOLA CONSTANT VOLTAGE TRANSFORMER into your product and stop worrying about your customer's line voltage. There will be no burn-outs from over-voltage, no operating failures due to under-voltage and no erratic performance resulting from line transients.

You can build a SOLA CONSTANT VOLTAGE TRANSFORMER into your production line or your laboratory and know that every test will be made under the same line conditions, that those conditions will not change from the start of your test to its finish, and, above all, that if a short circuit occurs, there will be no fires, no ruined transformer, no blown fuses.

You'll find these SOLA CONSTANT VOLTAGE TRANSFORMERS surprisingly compact—and economical, too. To augment or replace non-regulating types, standard designs are available, or units can be built to your special specification. So—whether it's 1 VA for an instrument or 10 KVA for a production line—make it a SOLA and be sure! Our engineers will assist you in selecting the type best suited to your needs. *Write for Bulletin GCV-74.*

For capacities above 200 VA. Housing type.

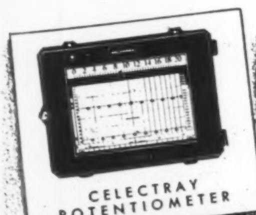
From 20—200 VA. Primary cord set, and output receptacle.

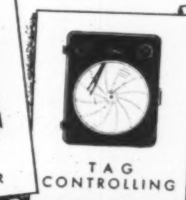


A new unit for applications up to 15 VA. Equipped with leads or terminals.

SOLA

SOLA ELECTRIC CO. 2525 Clybourn
Chicago, Illinois





TAG THERMOMETER

TAG RECORDERS

There is an instrument included in this group that is designed to record all temperatures from minus 200° C. up, and all industrial pressures.

Ask for catalogs . . . they graphically suggest the usefulness of Celectray Recording Potentiometer Pyrometer, TAG Recording Thermometer and Recording Pressure Gages for service and economy in your plant.

C. J. TAGLIABUE MFG. CO.
Park & Nostrand Avenues, Brooklyn, N. Y.

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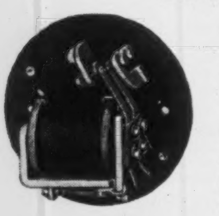
RELAYS by GUARDIAN

... for AC or DC Operation—

● Relays and Stepping Switches illustrated below suggest a few of the numerous types of Electrical Control Units obtainable at Guardian Electric, in both industrial and *Government Approved* types.

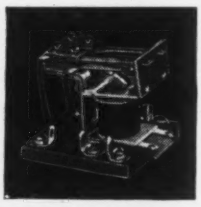
If you need COMPACT and highly sensitive controls that possess quick responsiveness and precision of action—with MAXIMUM CONTROL in *minimum space*—you will get it ALL at Guardian. Controls by Guardian are furnished to operate on any specified voltage up to 220 DC—440 AC—and on any current from .5 milliamperes to 30 amperes. Contact capacities to 1000 amperes, intermittent D.C.

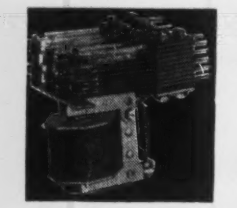
DIRECT CURRENT RELAYS



SERIES 5 DC (left) Current draw as low as .009 watts—furnished completely enclosed—contact limit, double pole, double throw. Size 3¼ x 3¼ x 2″.

SERIES 115 DC (right) Four pole, double throw contact capacity, rapid change over of contacts, full floating, permanently locked armature, economical of space and cost.





ALTERNATING CURRENT RELAYS

SERIES 30 AC (left) Supplied in three types of mountings, voltage range .1 to 440 volts, contact capacity 42 contacts. Size 2¾ x 1½ x 2⅛″.

MINIATURE ELECTRO MAGNET

(Clapper type)

Smaller than a postage stamp. Used for indicating devices and automatic stops. Coil can be wound for any low DC voltage. Exerts pull of 7 grams at 24 volts DC. Insulation to ground tested at 1,000 volts for 15 seconds, coil to core. Resistance 15 ohms. Size: 1-1/16″ x ¾″ x ½″. Weight: 1½ oz.

GOVERNMENT APPROVED RELAYS

SERIES 195 RELAY (left) Contact capacity 150 watts. Switch capacity double pole, double throw. Maximum coil resistance 3,000 Ohms. Vibration resistant. Specified where weight and size are of utmost importance, as in aircraft. Weight, ¾ oz. Size 15/16″ Dia. x 1¼″ L. Available DC only.

SERIES 165-24 v. VIBRATION RESISTANT RELAY (right) Contact combinations up to double pole, double throw, with contact capacity up to 12.5 amp. per pole, non-inductive AC. Overall dimensions: 2½ x 1-9/16 x 1⅝″. Weight: (DPST Contacts) 5 oz. Available DC only.

BK-10 RELAY (left) Precisely counter-balanced to resist extreme vibrations. Built to rigid U.S. Signal Corps specifications.

B-2A RELAY (right) Vibration resistant. Can be furnished for operation on any DC voltage from 6 to 220 volts. Standard contact combination: single pole, single throw, normally open, double break. Size: 3⅛″ x 1-9/16″ x 1⅜″. Weight: 5½ oz.

● **WRITE TO GUARDIAN** for free engineering assistance on any electrical control problem. No obligation. Ask for Catalog L, with illustrations and specifications on the complete Guardian line.

GUARDIAN ELECTRIC

1638 West Walnut Street Chicago, Illinois

A COMPLETE LINE OF RELAYS SERVING AMERICAN WAR INDUSTRY

REGULATORS, AUTOMATIC, Boiler (Cont'd)
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Hanlon-Waters, Inc.
Mason-Neilan Regulator
McAlear Mfg. Co.
McDonnell & Miller
Minneapolis-Honeywell
National Brass Co.
Natural Gas Equipment
Penn Electric Switch
Perfex Corp.
Republic Flow Meters
Robertshaw Thermostat
Ruggles-Klingemann
Tagliabue Mfg. Co.
Wilgus Mfg. Co.

REGULATORS, AUTOMATIC, Compressed Gas
American Meter Co.
Bailey Meter Co.
Bastian-Blessing
Bristol Co.
Brooke Eng. Co.
Brown Inst. Co.
Cash Co.
Electrimatic Corp.
Fisher Governor Co.
Frick Co.
Hanlon-Waters, Inc.
Hoke, Inc.
Mason-Neilan Regulator
McAlear Mfg. Co.
Mercon Regulator Co.
Natural Gas Equipment
Pgh. Equitable Meter
Republic Flow Meters
Reynolds Gas Regulator
Robertshaw Thermostat
Tagliabue Mfg. Co.
Victor Equipment Co.

REGULATORS, AUTOMATIC, Condensation (See Controllers, Automatic, Condensation)

REGULATORS, AUTOMATIC, Consistency (Paper & Pulp) (See Controllers, Automatic, Consistency)

REGULATORS, AUTOMATIC, Current
Amperite Corp.
Amplifier Co.
Beck Bros.
Betts & Betts
Burlington Inst. Corp.
Cutler-Hammer, Inc.
General Elec. Co.
Monitor Controller Co.
Robertshaw Thermostat
Roller-Smith Co.
Wheelco Instruments

REGULATORS, AUTOMATIC, Damper (See Controllers, Automatic, Damper)

REGULATORS, AUTOMATIC, District (See Governors, District)

REGULATORS, AUTOMATIC, Draft (See Controllers, Automatic, Draft)

REGULATORS, AUTOMATIC, Drying Chamber
Powers Regulator Co.
United Cinephone Corp.

REGULATORS, AUTOMATIC, Feed Water
Askania Regulator Co.
Atlas Valve Co.
Bailey Meter Co.
Belfield Co.
Brown Inst. Co.
Cochrane Corp.
Davis Reg. Co.
Defender Automatic Reg.
General Regulator Corp.
Hagan Corp.
Hanlon-Waters, Inc.
Mason-Neilan Regulator
McAlear Mfg. Co.
McDonnell & Miller
Mercon Regulator Co.
Minneapolis-Honeywell
Natural Gas Equipment
Northern Equip. Co.
Ruggles-Klingemann
Tagliabue Mfg. Co.
Vaughn-G. E. Witt Co.
Watts Regulator Co.
Wheelco Instruments
Wilgus Mfg. Co.
Williams Gauge Co.

REGULATORS, AUTOMATIC, Flow (See Controllers, Automatic, Flow)

REGULATORS, AUTOMATIC, Flow Proportioning (See Controllers, Automatic, Flow Proportioning)

REGULATORS, AUTOMATIC, Fluid Proportioning (See Controllers, Automatic, Fluid Proportioning)

REGULATORS, AUTOMATIC, Frequency
Burlington Inst. Corp.
General Elec. Co.
Leeds & Northrup
Warren Telechron Co.
Wheelco Inst. Co.

REGULATORS, AUTOMATIC, Furnace (See Controllers, Automatic, Furnace)

REGULATORS, AUTOMATIC, Gas (See Regulators, Automatic, Air)

REGULATORS, AUTOMATIC, Humidity (See Controllers, Automatic, Humidity)

REGULATORS, AUTOMATIC, Liquid Level (See Controllers, Automatic, Liquid Level)

REGULATORS, AUTOMATIC, Load
Allis-Chalmers Mfg. Co.
Autom'c Valve Controller
Hays Corp.
Leeds & Northrup Co.
Taylor Inst. Cos.

REGULATORS, AUTOMATIC, Oil Feed
Askania Regulator Co.
Atlas Valve Co.
Brown Inst. Co.
Cash Co.
D'Este Co.
Fisher Governor
Foster Engg. Co.
General Regulator Corp.
Hagan Corp.
Lammert & Mann Co.
Mason-Neilan Regulator
McAlear Mfg. Co.
McCorkle Co.
National Airoil Burner
Republic Flow Meters
Spence Engineering Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
United Cinephone Corp.
Vaughn-G. E. Witt Co.
Wilgus Manufacturing

REGULATORS, AUTOMATIC, Power Factor
Allis-Chalmers Mfg. Co.
Leeds & Northrup Co.
United Cinephone Corp.

REGULATORS, AUTOMATIC, Pressure (See Controllers, Automatic, Pressure)

REGULATORS, AUTOMATIC, Pump
Allen-Bradley Co.
Arca Regulators, Inc.
Askania Regulator Co.
Atlas Valve Co.
Bailey Meter Co.
Belfield Co.
Boylston Co.
Bristol Co.
Brown Inst. Co.
Builders-Providence
Cash Co.
Davis Reg. Co.
D'Este Co.
Fisher Governor Co.
Ford Reg. Valve Co.
Foster Engg. Co.
Furnas Electric Co.
General Regulator Corp.
Hagan Corp.
Hanlon-Waters, Inc.
Hydraulic Press Co.
Klipfel Mfg. Co.
Leslie Co.
Mason-Neilan Regulator
McAlear Mfg. Co.
Mercon Regulator Co.
Northern Equip. Co.
Penn Electric Switch
Republic Flow Meters
Water Level Controls Co.
Schade Valve Mfg. Co.
Spence Engineering Co.
Tagliabue Mfg. Co.
Vaughn-G. E. Witt Co.
Watts Regulator Co.
Wilgus Mfg. Co.

REGULATORS, AUTOMATIC, Refrigeration (See Controllers, Automatic, Refrigeration)

REGULATORS, AUTOMATIC, RKVA
Allis-Chalmers Mfg. Co.

REGULATORS, AUTOMATIC, Safety Fuel Shut-Off (See Valves, Automatic, Safety Fuel

REGULATORS, AUTOMATIC, Steam Pressure (See Regulators, Automatic, Pressure)

REGULATORS, AUTOMATIC, Synchronizing
Allis-Chalmers Mfg. Co.
Industrial Engr. Corp.
Magnetic Gauge Co.

REGULATORS, AUTOMATIC, Temperature (See Controllers, Automatic, Temperature)

REGULATORS, AUTOMATIC, Time (See Controllers, Automatic, Time)

REGULATORS, AUTOMATIC, Vacuum (See Controllers, Automatic, Vacuum)

REGULATORS, AUTOMATIC, Viscosity (See Controllers, Automatic, Viscosity)

REGULATORS, AUTOMATIC, Voltage
American Transformer
Amperite Corp.
Amplifier Co.
Burlington Inst. Corp.
Clarostat Mfg. Co.
Eclipse Aviation
Electronic Prod. Co.
Ferris Inst. Corp.
Fredericks, George
General Elec. Co.
Ideal Commuto'r Dresser
International Resistance
Miller Co., Bertrand F.
Raytheon Mfg. Co.
Sola Electric Co.
United Cinephone Corp.
United Transformer Corp.
Ward Leonard Elec. Co.
Wheelco Instruments

REGULATORS, AUTOMATIC, Water Pressure (See Regulators, Automatic, Pressure)

REGULATORS, AUTOMATIC, Welding, Gas
Bastian-Blessing Co.
Victor Equipment Co.

REGULATORS, MANUAL (Non-Automatic)
Allen-Bradley Co.
Bailey Meter Co.
Beck Bros.
Belfield Co.
Brown Inst. Co.
Cutler-Hammer, Inc.
Fisher Governor
Hanlon-Waters, Inc.
McAlear Mfg. Co.
National Airoil Burner
National Elec. Controller
Pioneer Instrument
Superior Electric Co.
Tagliabue Mfg. Co.
United Transformer Corp.
Ward Leonard Elec. Co.
Wheelco Instruments

RELAYS, Automatic
Allen-Bradley Co.
American Inst. Co.
American Automatic Elec.
Autocall Co.
Clare & Co.
Cutler-Hammer, Inc.
Eclipse Aviation
General Controls Co.
General Elec. Co.
Guardian Elec. Mfg. Co.
Hagan Corp.
H-B Elec. Co.
Industrial Eng. Corp.
Industrial Timer Corp.
Kellogg Switchboard
Mercoid Corp.
Minneapolis-Honeywell
Monitor Controller Co.
Paragon Electric Co.
Penn Electric Switch
Perfex Corp.
Roller-Smith Co.
Struthers-Dunn
Ward Leonard Elec. Co.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.

RELAYS, Capacity-Operated
Amer. Automatic Elec.
Electronic Lab.
Luxtrol Co., Inc.

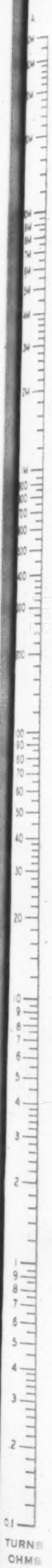
RELAYS, Circuit Control
Advance Electric Co.
Allen-Bradley Co.
Allied Control Co.
American Automatic Elec.
American Inst. Co.
Autocall Co.
Automatic Switch Co.
Brown Inst. Co.
Clare & Co.
Electric Controller
Friez & Sons
General Elec. Co.
Guardian Elec. Mfg. Co.
H-B Electric
Industrial Timer Corp.
Kellogg Switchboard
Kurman Electric
Leach Relay Co.
Lumenite Elec. Co.
Miller Co., Bertrand F.
Minneapolis-Honeywell
Monitor Controller Co.
Paragon Electric Co.
Precision Scientific
Roller-Smith Co.
Sigma Instruments, Inc.
Struthers-Dunn
United Cinephone Corp.
Ward Leonard Elec. Co.
Western Electro-Mech.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.

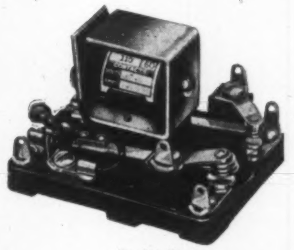
RELAYS, Continuous Current
Allen-Bradley Co.
Allied Control Co.
American Automatic Elec.
American Inst. Co.
Autocall Co.
Clare & Co.
General Elec. Co.
Guardian Elec. Mfg. Co.
H-B Electric
Industrial Timer Corp.
Kellogg Switchboard
Paragon Electric Co.
Struthers-Dunn
Ward Leonard Elec. Co.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.

KURMAN CALCULATOR

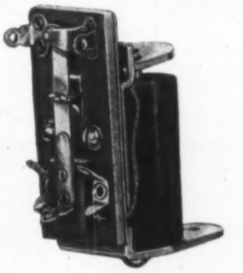
Unknown values can be determined by placing a straight edge across the face of this nomograph joining two known values in any of the equations in the following table. The unknown value then occurs at the intersection of this straight edge with the proper vertical scale.

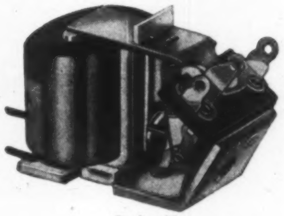
	SCALE A	SCALE B	SCALE C	SCALE D
$E = IR$	R (Ohms)	E (Volts)		I (Mils)
$W = E^2/R = I^2R$	R (Ohms)	E (Volts)	W (Watts)	I (Mils)
Volt—Amperes = VxA		V (Volts)	Volt—Amperes (VA)	A (Mils)
Ampere—Turns = NxI	N (Turns)	Ampere—Turns (NI)		I (Mils)
$ND^2 = K$	N (Turns)		K (Coil Vol. Const.)	D, Wire Diameter (Mils)

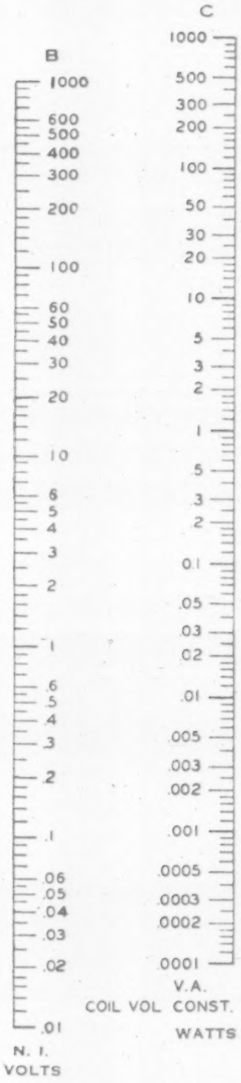

A
1M
100
10
1
0.1
TURNS
OHMS

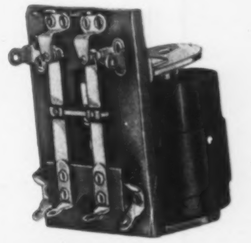

Series 5

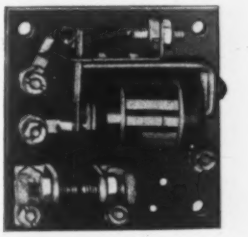
Series 10

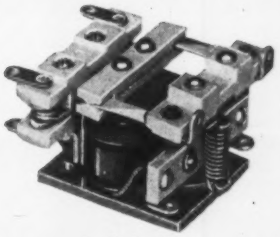

Series 11

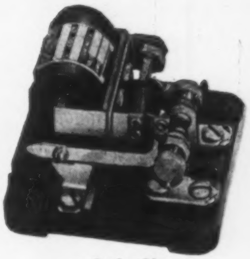

Series 12

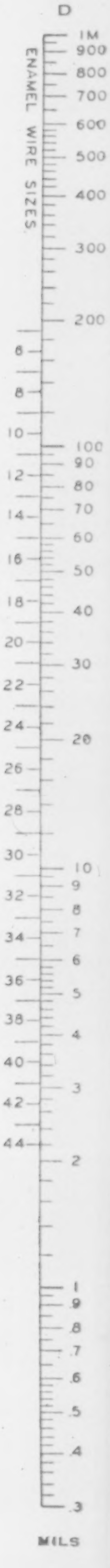

B
1000
600
500
400
300
200
100
60
50
40
30
20
10
6
5
4
3
2
1
.6
.5
.4
.3
.2
.1
.06
.05
.04
.03
.02
.01
N. I.
VOLTS
C
1000
500
300
200
100
50
30
20
10
5
3
2
1
.5
.3
.2
0.1
.05
.03
.02
.01
.005
.003
.002
.001
.0005
.0003
.0002
.0001
V.A.
COIL VOL CONST.
WATTS


Series 15


Series 21


Series 25


Series 31


D
ENAMEL WIRE SIZES
1M
900
800
700
600
500
400
300
200
100
90
80
70
60
50
40
30
20
10
9
8
7
6
5
4
3
2
1
.9
.8
.7
.6
.5
.4
.3
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
42
44
MILS

GUIDE TO KURMAN RELAY SPECIFICATIONS

SERIES	RATED INPUT DC WATTS	RATED INPUT AC V.A.	AMPERE CONTACT RATING	WEIGHT OUNCES	DIMENSIONS INCHES	LIST PRICE
5	2.5	8	15	7½	3 x 2¼ x 2⅛	\$4.25-\$7.75
10	.35	——	.5	1½	1 5/16 x 1 x 1 3/16	\$3.00-\$4.00
11	.80	4.4	1	2⅛	1¾ x 13/16 x 1¾	\$3.50-\$6.50
12	.018	——	.25	1½	1⅜ x 1 1/16 x 15/16	\$2.00-\$3.00
15	2.0	6	1	3⅜	1¾ x 1 5/16 x 1¾	\$4.25-\$8.25
21	.014	.36	3	6¾	2⅝ x 2⅝ x 1⅝	\$6.00-\$10.50
25	2.0	4.0	10	4	2 1/16 x 1⅝ x 1 5/16	\$3.75-\$6.75
31	.014	.36	3	6⅝	2⅝ x 2⅝ x 1⅝	\$6.00-\$10.50

NOTES

I. All current contact ratings are in amperes at 110 volts 60 cycle AC.

II. Dielectric strength of 1500 volts exists between contacts and ground in Series 10, 11, 15.

III. Insulated armature, shown on Series 31, is recommended for high frequency transfer. This feature may be specified for Series 21.

IV. Ferronickel alloy is used in the magnetic circuits for Series 12, 21, 31.

V. Ceramic insulation in Series 25 permits high frequency transfer with low capacitive leakage.

VI. Dampened armature action in Series 25 is designed to reduce contact bounce after initial pull down.

VII. Rated watts represents practical minimum input at standard adjustments.

VIII. All AC relays have a power factor of approximately .5.

IX. List prices vary with specific voltage and insulation requirements.

KURMAN ELECTRIC CO., Inc.

30-30 NORTHERN BLVD., L. I. C., N. Y.

If your instruments and devices for measurement, inspection, testing and control are not listed in this issue of

The Instruments Index

the most complete list of instruments with their manufacturers ever published—

Send in a list of the products at once for free listing in the next annual edition.

☆

INSTRUMENTS PUBLISHING CO.

1117 Wolfendale St. Pittsburgh, Pa.

RELAYS, Control
- Allen-Bradley Co.
- Advance Electric Co.
- **Allied Control Co.**
- American Automatic Elec.
- **American Inst. Co.**
- Autocall Co.
- Automatic Switch Co.
- Barber-Coleman
- **Betts & Betts**
- **Brown Inst. Co.**
- **Clare & Co.**
- **Control Corp.**
- Cutler-Hammer, Inc.
- Electric Controller
- **Friez & Sons**
- **General Controls Co.**
- **General Elec. Co.**
- **Guardian Elec. Mfg. Co.**
- Hagan Corp.
- **H-B Electric**
- Industrial Eng. Corp.
- Kellogg Switchboard
- **Kurman Electric**
- Miller Co., Bertrand F.
- Minneapolis-Honeywell
- Monitor Controller Co.
- National Time & Signal
- Perfex Corp.
- **Precision Therm.**
- **Roller-Smith Co.**
- Struthers-Dunn
- United Cinephone Corp.
- **Ward Leonard Elec. Co.**
- **Western Electro-Mech.**
- Westinghouse Elec. & Mfg.
- **Weston Elec. Inst. Corp.**

RELAYS, Demand Totalizing
- Amer. Automatic Elec.
- Autocall Co.
- **General Elec. Co.**
- Hagan Corp.
- Therm-Electric Meters Co.
- United Cinephone Corp.
- Westinghouse Elec. & Mfg.

RELAYS, Electromagnetic
- Advance Electric Co.
- Allen-Bradley Co.
- **Allied Control Co.**
- American Automatic Elec.
- **American Inst. Co.**
- Autocall Co.
- Automatic Switch Co.
- Bender Warrick
- Bunnell & Co.
- **Eby, Inc.**
- **Clare & Co.**
- Cutler-Hammer, Inc.
- **Friez & Sons**
- **General Elec. Co.**
- **G-M Labs.**
- **Guardian Elec. Mfg. Co.**
- **H-B Electric**
- Industrial Eng. Corp.
- Kellogg Switchboard

(Cont'd)

RELAYS, Electromagnetic
(Cont'd)
- **Kurman Electric Co.**
- Leach Relay Co.
- Miller Co., Bertrand F.
- Minneapolis-Honeywell
- Monitor Controller Co.
- National Time & Signal
- Penn Electric Switch Co.
- Perfex Corp.
- **Phila. Thermometer Co.**
- **Precision Scientific**
- **Precision Therm. & Inst.**
- Sigma Instruments, Inc.
- Struthers-Dunn
- United Cinephone Corp.
- **Ward Leonard Elec. Co.**
- **Western Electro-Mech.**
- Westinghouse Elec. & Mfg.
- **Weston Elec. Inst. Corp.**
- White-Rodgers Electric
- Zenith Electric Co.

RELAYS, Electronic
- **Automatic Temp. Control**
- Bell & Howell
- Cardwell Mfg. Corp.
- **Clare & Co., C. P.**
- Coleman Electric
- **Cramer Co., Inc.**
- Davis & Co., Inc., Dean
- Echo Electrical
- Electro-Medical Lab.
- **Ess Instrument**
- **Guardian Elec. Mfg.**
- Photobell Corp.
- **Televiso Products**
- United Cinephone

RELAYS, Frequency
- **Allied Control Co.**
- Amer. Automatic Elec.
- Autocall Co.
- **Clare & Co., C. P.**
- Control Corp.
- Cutler-Hammer, Inc.
- Esterline-Angus Co.
- **Hickok Electrical Inst.**
- United Cinephone Corp.
- **Ward Leonard Electric Co.**
- Westinghouse Elec. & Mfg.

RELAYS, Galvanometer
- Amer. Automatic Elec.
- Autocall Co.
- **Eby, Inc., Hugh H.**
- G-M Laboratories, Inc.
- **Roller-Smith Co.**
- **Rubicon Co.**
- **Tagliabue Mfg. Co., C. J.**

RELAYS, Heavy Duty
- Allen-Bradley Co.
- **Allied Control Co.**
- American Automatic Elec
- **American Inst. Co.**
- Autocall Co.
- Automatic Switch Co.
- Cutler-Hammer, Inc.
- General Elec. Co.

(Cont'd)

RELAYS, Heavy Duty
(Cont'd)
- **H-B Electric**
- Miller Co., Bertrand F.
- Monitor Controller Co.
- Penn Electric Switch
- **Philadelphia Thermometer**
- **Ward Leonard Elec. Co.**
- Westinghouse Elec. & Mfg.
- Zenith Electric Co.

RELAYS, Instrument Controlled
- **Allied Control Co.**
- American Automatic Elec.
- **American Inst. Co.**
- Autocall Co.
- **Barber-Colman**
- **Brown Inst. Co.**
- **Clare & Co.**
- **Cramer & Co., Inc.**
- **Friez & Sons**
- **General Elec. Co.**
- **Guardian Elec. Mfg. Co.**
- **H-B Electric**
- **Kurman Electric Co.**
- Minneapolis-Honeywell
- Perfex Corp.
- **Phila. Thermometer Co.**
- **Precision Scientific**
- **Precision Therm.**
- **Roller-Smith Co.**
- Struthers-Dunn
- **Tagliabue Mfg. Co.**
- **Triplett Electrical Inst.**
- United Cinephone Corp.
- **Ward Leonard Elec. Co.**
- **Weston Elec. Inst. Corp.**

RELAYS, Light Sensitive (See Photoelectric below)

RELAYS, Magnetic (See Relays, Electro-Magnet)

RELAYS, Mercury
- American Automatic Elec.
- **American Inst. Co.**
- Autocall Co.
- Continental Elec. Co.
- **Guardian Electric**
- **H-B Elec. Co., Inc.**
- **Precision Scientific**
- **Precision Therm.**
- **Weston Elec. Inst. Corp.**

RELAYS, Mercury Tube
- Amer. Automatic Elec.
- **American Inst. Co.**
- Autocall Co.
- **Brown Inst. Co.**
- **Clare & Co.**
- Struthers-Dunn
- **General Controls Co.**
- **G-M Labs.**
- **Guardian Elec. Mfg. Co.**
- **H-B Elec. Co., Inc.**
- Minneapolis-Honeywell
- **Phila. Thermometer**

(Cont'd)

RELAYS, Mercury Tube
(Cont'd)
- **Precision Therm.**
- **Ward Leonard Elec. Co.**
- **Weston Elec. Inst. Corp.**

RELAYS, Motor Driven Time Delay
- Advance Electric Co.
- **American Inst. Co.**
- **Barber-Colman**
- **Betts & Betts**
- Controls, Inc.
- **Cramer & Co., Inc.**
- Struthers-Dunn
- **Friez & Sons**
- **General Elec. Co.**
- Industrial Eng. Corp.
- Industrial Timer
- Monitor Controller Co.
- Paragon Electric Co.
- **Ward Leonard Elec. Co.**
- Westinghouse Elec. & Mfg.
- **Weston Elec. Inst. Corp.**
- Zenith Electric Co.

RELAYS, Movable Coil A.C.
- Esterline-Angus Co.
- General Elec. Co.
- **Roller-Smith Co.**
- **Weston Elec. Inst. Corp.**

RELAYS, Overload
- Allen-Bradley Co.
- **Allied Control Co.**
- **Amer. Automatic Elec.**
- Autocall Co.
- Bunnell & Co.
- **Burlington Inst. Corp.**
- Cutler-Hammer, Inc.
- Struthers-Dunn
- Edison, Instrument Div.
- Electric Controller
- **General Elec. Co.**
- **Guardian Elec. Mfg. Co.**
- Leach Relay Co.
- Penn Electric Switch
- **Roller-Smith Co.**
- Standard Elect. Prods.
- **Ward Leonard Elec. Co.**
- Westinghouse Elec. & Mfg.

RELAYS, Permanent Magnet Movable Coil
- Bunnell & Co.
- Esterline-Angus Co.
- **General Elec. Co.**
- **Roller-Smith Co.**
- **Triplett Electrical Inst.**
- **Weston Elec. Inst. Corp.**

RELAYS, Photoelectric
- Advance Electric Co.
- **Allied Control Co.**
- **American Inst. Co.**
- **Eby, Inc.**
- **Clare & Co.**
- **Continental Elec. Co.**
- Cutler-Hammer, Inc.
- Dickson Co.
- Electronic Lab.
- **Electronic Prod. Co.**
- **Ess Instrument Co.**
- **General Controls Co.**
- General Elec. Co.
- **G-M Labs.**
- Leach Relay Co.
- Lipman Engg. Co.
- **Lumenite Elec. Co.**
- **Photobell Corp.**
- Photoswitch, Inc.
- **Precision Therm.**
- **Rehtron Corp.**
- **Rubicon Co.**
- Sigma Instruments, Inc.
- **Tagliabua Mfg. Co.**
- United Cinephone Corp.
- **Ward Leonard Elec. Co.**
- Westinghouse Elec. & Mfg.
- **Weston Elec. Inst. Corp.**

RELAYS, Polarized
- **Allied Control Co.**
- American Automatic Elec.
- Autocall Co.
- Struthers-Dunn
- Edison, Instrument Div.
- **L. A. B. Corp.**
- Miller Co., Bertrand F.
- **Precision Therm. & Inst.**
- Westinghouse Elec. & Mfg.
- **Weston Elec. Inst. Corp.**

RELAYS, Power
- **Allied Control Co.**
- **Amer. Automatic Elec.** (Max. 10 Amps.)
- **American Inst. Co.**
- Automatic Switch Co.
- Struthers-Dunn
- Esterline-Angus Co.
- **General Controls Co.**
- **General Elec. Co.**
- Hagan Corp.
- **H-B Electric**
- **Roller-Smith Co.**
- **Ward Leonard Elec. Co.**
- Westinghouse Elec. & Mfg.
- **Weston Elec. Inst. Corp.**

RELAYS, Power Factor
- Esterline-Angus Co.
- **L. A. B. Corp.**
- Westinghouse Elec. & Mfg.

RELAYS, Resistance, D-c.
- Advance Electric Co.
- **Allied Control Co.**
- Autocall Co.
- Automatic Electric Co.
- Bunnell & Co.
- **Clare & Co., C. P.**
- Cutler-Hammer, Inc.
- **Dunn, Inc., Struthers**
- **Guardian Electric**
- Leach Relay Co.

RELAYS, Stepping
- **Allied Control Co.**
- Autocall Co.
- Automatic Electric Co.
- **Dunn, Inc., Struthers**
- G-M Laboratories, Inc.
- **Guardian Electric**
- **Roller-Smith Co.**

RELAYS, Telephone Auxiliary Ringing
- Advance Electric Co.
- **Allied Control Co.**
- American Automatic Elec.
- Autocall Co.
- **Clare & Co.**
- Struthers-Dunn
- Kellogg Switchboard
- **Kurman Electric Co.**
- Leach Relay Co.
- **Western Electro-Mech.**

RELAYS, Temperature
- Autocall Co.
- **Clare & Co., C. P.**
- **Dunn, Inc., Struthers**
- Edison, Instrument Div.
- **Friez & Sons**
- Gleason-Avery, Inc.
- G-M Laboratories, Inc.
- **Guardian Electric**
- Leach Relay Co.
- Minneapolis-Honeywell
- **Photobell Corp.**
- Spencer Thermostat Co.
- **Tagliabue Mfg. Co., C. J.**
- United Cinephone Corp.
- Westinghouse Elec. & Mfg.
- **Weston Electrical Inst.**

RELAYS, Thermal Time Delay
- Advance Electric Co.
- Allen-Bradley Co.
- **Allied Control Co.**
- American Automatic Elec.
- **Am. Gas Accumulator**
- **American Inst. Co.**
- Autocall Co.
- Automatic Temp. Control
- **Betts & Betts**
- **Cramer & Co., Inc.**
- Cutler-Hammer, Inc.
- Struthers-Dunn
- Eagle Signal Corp.
- Echo Electrical
- Edison, Instrument Div.
- Electric Controller
- Electronic Prod. Co.
- **Friez & Sons, Jr.**
- **General Elec. Co.**
- **Guardian Elec. Mfg. Co.**
- Industrial Eng. Corp.
- Magnetic Gauge Co.
- Paragon Electric Co.
- Perfex Corp.
- **Photobell Corp.**
- **Precision Therm.**
- Preferred Utilities Mfg.
- **Roller-Smith Co.**
- Spencer Thermostat Co.
- **Ward Leonard Elec. Co.**
- **Weston Elec. Inst. Corp.**
- Westinghouse Elec. & Mfg.
- **Weston Elec. Inst. Corp.**
- White-Rodgers Electric
- Zenith Electric Co.

RELAYS, Time Delay (See Relays, Thermal Time Delay)

RELAYS, Transformer (Low Voltage)
- Allen-Bradley Co.
- **Allied Control Co.**
- Automatic Electric
- Struthers-Dunn
- Eclipse Aviation
- **Friez & Sons**
- **General Controls Co.**
- Gleason-Avery, Inc.
- **Guardian Elec. Mfg. Co.**
- **H-B Electric**
- Industrial Eng. Corp.
- Miller Co., Bertrand F.
- Minneapolis-Honeywell
- Paragon Electric Co.
- Penn Electric Switch
- Perfex Corp.
- Sigma Instruments, Inc.
- **Ward Leonard**
- Westinghouse Elec. & Mfg.
- White-Rodgers Electric

RELAYS, Vacuum Contact
- American Automatic Elec.
- **American Inst. Co.**
- Edison, Instrument Div.

RELAYS, Vacuum Tube
- **Allied Control Co.**
- **American Inst. Co.**
- Automatic Elec.
- **Continental Elec. Co.**
- Struthers-Dunn
- **Eby, Inc.**
- **Electro-Medical Lab.**
- Electronic Prod. Co.
- **General Controls Co.**
- **General Elec. Co.**
- **G-M Labs.**
- **L. A. B. Corp.**
- Lumenite Elec. Co.
- Metron Instrument
- **Photobell Corp.**
- **Precision Therm.**
- Sargent & Co.
- Sigma Instruments
- **Tagliabue Mfg. Co.**
- United Cinephone Corp.

RELAYS, Voltage
- Advance Electric Co.
- Allen-Bradley Co.
- **Allied Control Co.**
- Autocall Co.
- Automatic Elec.

(Cont'd)

RELAYS, Voltage (Cont'd)
- Automatic Switch Co.
- **Barber-Colman**
- **Clare & Co., C. P.**
- Cutler-Hammer, Inc.
- **Dunn, Inc., Struthers**
- **Eby, Inc., Hugh H.**
- Esterline-Angus Co.
- Ferranti Electric, Inc.
- Hart Manufacturing Co.
- Hathaway Inst. Co.
- **Kurman Electric**
- Leach Relay Co.
- **Photobell Corp.**
- Reliance Instrument Co.
- **Roller-Smith Co.**
- **Ward Leonard Electric Co.**
- **Triplett Electrical Inst.**
- Westinghouse Elec. & Mfg.
- **Weston Electrical Inst.**

REMOTE-CONTROL EQUIPMENT
- Allen-Bradley Co.
- **Allied Control Co.**
- American Automatic Elec.
- Atlas Valve Co.
- Autocall Co.
- **Bailey Meter Co.**
- **Barber-Colman**
- **Bristol Co.**
- Brooke Eng. Co.
- **Brown Inst. Co.**
- **Builders Providence**
- Clare & Co.
- Control Corp.
- Cutler-Hammer, Inc.
- Davis Reg. Co.
- Elec. Indicator Corp.
- Electrimatic Corp.
- Electronic Lab.
- Elsbert Mfg. Co.
- **Fischer & Porter**
- **Foxboro Co.**
- **General Elec. Co.**
- Globe Industries
- **Guardian Electric**
- Hagan Corp.
- Hanlon-Waters, Inc.
- Hart Mfg. Co.
- **Hays Corp.**
- **H-B Electric**
- Illinois Eng. Co.
- Infilco, Inc.
- **Kollsman Inst. Co.**
- Kurman Electric Co.
- **Mason-Neilan Regulator**
- Minneapolis-Honeywell
- Perfex Corp.
- Photobell Corp.
- **Pioneer Instrument**
- **Powers Regulator Co.**
- Republic Flow Meters
- Scientific Inst. Co.
- **Tagliabue Mfg. Co.**
- **Taylor Inst. Cos.**
- United Cinephone Corp.
- **Wheelco Instruments**
- Zenith Electric Co.

REMOTE-METERING EQUIPMENT, ELECTRICAL
- **Anderson Co.**
- Andrew, Victor J.
- **Automatic Temp.** Control
- **Bristol Co.**
- **Brown Inst. Co.**
- **Builders-Providence**
- Control Corp.
- Elec. Indicator Corp.
- **Elec. Tachometer Corp.**
- Esterline-Angus Co.
- **Fischer & Porter**
- **Foxboro Co.**
- **General Elec. Co.**
- W. & L. E. Gurley
- Kellogg Switchboard
- **Kurman Electric Co.**
- **L. A. B. Corp.**
- **Leeds & Northrup Co.**
- **Mason-Neilan Regulator**
- Moisture Register Co.
- **Morey & Jones, Ltd.**
- Pioneer Instrument
- Republic Flow Meters
- **Tagliabue Mfg. Co.**
- Therm-Electric Meters
- Westinghouse Elec. & Mfg.

REMOTE-METERING EQUIPMENT, HYDRAULIC
- **Builders-Providence**
- Infilco, Inc.
- Leupold & Stevens
- Westinghouse Elec. & Mfg.

REMOTE-METERING EQUIPMENT, PNEUMATIC
- **American Meter Co.**
- **Bristol Co.**
- **Brown Inst. Co.**
- **Builders-Providence**
- **Foxboro Co.**
- **Mason-Neilan Regulator**
- **Taylor Inst. Cos.**

RESISTANCE LOADING EQUIPMENT
- **De Jur-Amsco**
- Eastern Specialty Co.
- Hardwick, Hindle, Inc.
- **International Resistance**
- **Precision Resistor Co.**
- **Shallcross Mfg.**
- **Ward Leonard**

RESISTANCES
- Allen-Bradley Co.
- Automatic Elec.
- Beck Bros.
- Central Scientific Co.
- Clarostat Mfg. Co.
- Cutler-Hammer, Inc.
- **Daven Co.**

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HYDRAULIC
"EXACTOR CONTROL"

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the smallest movement being
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Installation simple, quick, economical

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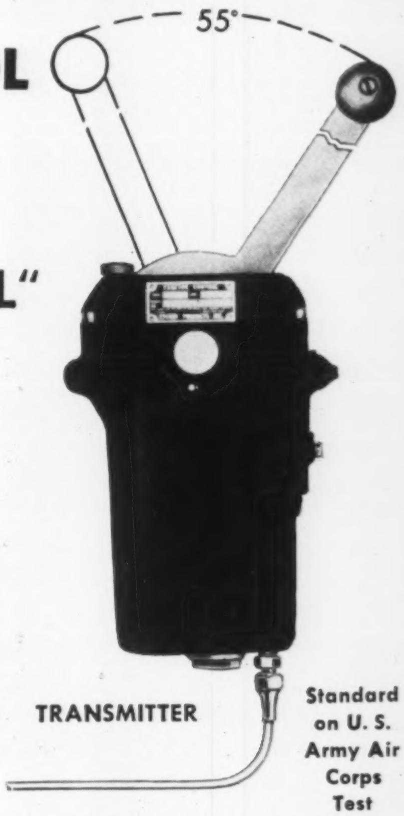

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Ohmite Mfg. Co.
Precision Resistor Co.
Rubicon Co.
Sensitive Research Inst.
Shallcross Mfg. Co.
Ward Leonard

RESISTORS, Adjustable
De Jur-Amsco
Mallory & Co.
Ohmite Mfg. Co.
Ward Leonard Electric Co.

RESISTORS, Carbon Compression
Allen Bradley Co.
Beck Bros.
International Resistance
Le Carbone Co., Inc.
Nat'l Carbon Co., Inc.
Ohio Carbon Co.
O. S. Peters
Speer Carbon Co.
Welch Mfg. Co.

RESISTORS, High Frequency
Beck Bros.
Daven Co.
General Radio Co.
Hardwick, Hindle, Inc.
Instrument Resistors, Inc.
International Resistance
Leeds & Northrup Co.
Mallory & Co.
Measurements Corp.
Ohmite Mfg. Co.
Shallcross Mfg. Co.
Ward Leonard Electric Co.

RESISTORS, High Voltage
Beck Bros.
Clarostat Mfg. Co.
Hardwick, Hindle, Inc.
Instrument Resistors, Inc.
International Resistance
J B L Instrument Co.
Ohmite Mfg. Co.
Shallcross Mfg. Co.
Ward Leonard Electric Co.

RESISTORS, Manganin
Beck Bros.
Daven Co.
De Jur-Amsco
General Radio Co.
Gray Instrument Co.
Hardwick, Hindle, Inc.
Instrument Resistors, Inc.
Leeds & Northrup Co.
Ohmite Mfg. Co.
Rubicon Co.
Shallcross Mfg. Co.

RESISTORS, Molded
Allen-Bradley Co.
Beck Bros.
Clarostat Mfg. Co.
International Resistance
Muter Co.
Triplett Electrical Inst.

RESISTORS, Standard
(See Standards, Resistance)

RESISTORS, Variable
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Beck Bros.
Clarostat Mfg. Co.
Cutler-Hammer, Inc.
De Jur-Amsco
General Radio Co.
Gray Instrument Co.
Hardwick, Hindle, Inc.
Instrument Resistors, Inc.
International Resistance
Leeds & Northrup Co.
Mallory & Co.
National Electric Control.
Ohmite Mfg. Co.
Rex Rheostat Co.
Rubicon Co.
Shallcross Mfg.

RESISTORS, Wire Wound
Automatic Elec.
Beck Bros.
Biddle Co., Jas. G.
Clarostat Mfg. Co.
Cutler-Hammer, Inc.
Daven Co.
De Jur-Amsco
General Radio Co.
Gray Instrument Co.
Hardwick, Hindle, Inc.
Instrument Resistors, Inc.
International Resistance
Leeds & Northrup Co.
Mallory & Co.
Muter Co.
National Electric Control.
Ohmite Mfg. Co.
Rex Rheostat Co.
Rubicon Co.
Shallcross Mfg. Co.
Triplett Electrical Inst.
Ward Leonard Electric Co.

RHEOSTATS, Battery Charging
Allen-Bradley Co.
Beck Bros.
Cutler-Hammer, Inc.
De Jur-Amsco
Hardwick, Hindle, Inc.
International Resistance
National Elec. Controller
Ohmite Mfg. Co.
Rex Rheostat Co.
Schaefer Bros. Co.
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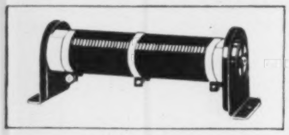

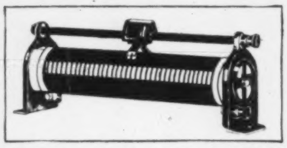

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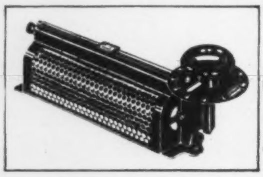

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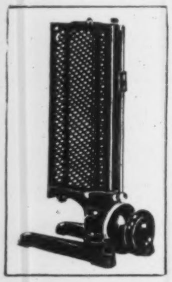
with and without protective housing. No back lash. Angle of rotation: 330 deg. With dial. 2 sizes — 500 and 825 Watt.



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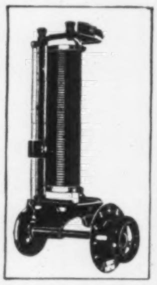

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A.C. Current up to
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A.C. and D.C. Volts up to
1500 VOLTS
Resistances up to
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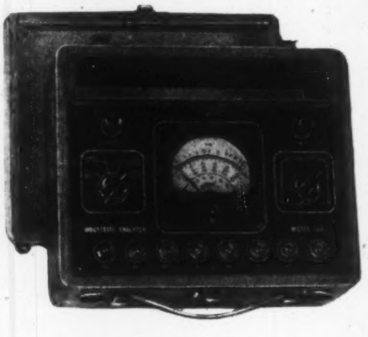

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A.C. CURRENT: 0 to 30 Amperes (may be extended by use of an external transformer)
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MODEL 560 comes housed in hand-rubbed wooden cabinet complete with portable cover, self-contained battery, test leads and instructions, Size 8½" x 7" x 4¼"; Shipping weight 7 pounds. Net Price..... **$28.50**

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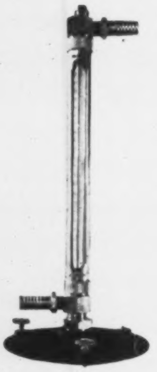

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Mallory & Co.
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Ohmite Mfg. Co.
Rex Rheostat Co.
Rubicon Co.
Schaefer Bros. Co.
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De Jur-Amsco Corp.
Eastern Specialty Co.
Hardwick, Hindle, Inc.
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Leeds & Northrup
National Elec. Controller
Ohmite Mfg. Co.
Shallcross Mfg.
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Chicago Apparatus Co.
General Radio Co.
Hardwick, Hindle, Inc.
G-M Labs.
Leeds & Northrup
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Impact Register Co.
Jaeger Watch Co.
Sperry Products, Inc.
Waugh Laboratories

RULES, Adjustable Curve (See Drawing Instruments)

RULES, Aluminum
Keuffel & Esser Co.
Lufkin Rule Co.
Warren-Knight Co.

RULES, Brass
Bliss & Co.
Lufkin Rule Co.
Mico Instrument Co.
Starrett Co.
Warren-Knight Co.

RULES, Caliper
Glogau & Co.
Lufkin Rule Co.
Millers Falls Co.
Starrett Co.
Union Tool Co.
Warren-Knight Co.

RULES, Drafting Room (See Drawing Instruments)

RULES, Folding
Bliss & Co.
Dietzen Co.
Keuffel & Esser Co.
Lufkin Rule Co.
Post Co., Frederick
Speidel & Co.
Starrett Co.
Warren-Knight Co.
Weber Co.

RULES, Glass
Fish-Schurman Co.
Glass Engraving Co.
Mico Instrument Co.

RULES, Parallel
Bliss & Co.
Dietzen Co.
Hamilton Mfg. Co.
Keuffel & Esser Co.
Negus, T. S. & J. D.
Speidel & Co.
Warren-Knight Co.
White Co., Inc.
Weber Co.

RULES, Precision Standard
Gaertner Scientific Corp.

RULES, Shrinkage
Keuffel & Esser Co.
Lufkin Rule Co.
Speidel & Co.
Starrett Co.
Warren-Knight Co.
Weber Co.

RULES, Slide (See Drawing Instruments)

RULES, Slide, Psychrometric
Friez & Sons

RULES, Steel
Kern Co.
Keuffel & Esser Co.
Lufkin Rule Co.
Mico Instrument Co.
Millers Falls Co.
Scherr Co., Inc.
Speidel & Co.
Starrett Co.
Union Tool Co.
Warren-Knight Co.
Weber Co.

RULES, Wood
Henschel & Co.
Keuffel & Esser Co.
Lufkin Rule Co.
Post Co., Frederick
Speidel & Co.
Warren-Knight Co.
Weber Co.

RUNNING TIME TOTALIZERS
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Jaeger Watch Co.
Production Instrument

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Akatos, Inc.
Bausch & Lomb Opt.
Central Scientific Co.
Eimer & Amend
Jarrell-Ash Co.
Kimble Glass
Moeller Instrument Co.
Rieker Inst. Co.
Sargent & Co.
Trerice Co.

SACCHAROMETERS
Central Scientific Co.
Eimer & Amend
Fleischhauer & Son
G. M. Mfg. Co., Inc.
H.B Inst. Co.
Kimble Glass Co.
Moeller Instrument Co.
Precision Therm. & Inst.
Rascher & Betzold
Rieker Inst. Co.
Ruehfel Co.
Scientific Inst. Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Wagner & Son

SALINITY INDICATORS
Bendix Marine Products
Central Scientific Co.
Eimer & Amend
Engineering Labs., Inc.
Fleischhauer & Son
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SALINITY INDICATORS (Cont'd)
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H-B Inst. Co.
Leeds & Northrup Co.
McNab of Bridgeport
Moeller Inst. Co.
Precision Therm. & Inst.
Rascher & Betzold
Rubicon Co.
Ruehfel Co.
Schultheis Corp.
Scientific Inst. Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Trerice Co.
Westinghouse Elec. & Mfg.

SALINOMETERS (See Salinity Indicators)

SAMPLER, Boiler Water
Natl. Aluminate Corp.

SAMPLERS, Oil
Braun Corp.
Central Scientific Co.
Pgh. Equitable Meter
Precision Scientific
Refinery Supply Co.
Scientific Glass Apparatus
Tagliabue Mfg. Co.

SAMPLERS, Oil Bottom-hole
Ruska & Co., Inc.

SAMPLERS, Sewage
Builders-Providence
Central Scientific Co.
Infilco, Inc.
Precision Scientific
Scientific Glass Apparatus

SAMPLERS, Silt
Central Scientific Co.

SCALES (See also object of measurement)

SCALES, Antimony Test
Howe Scale Co.
Seederer-Kohlbusch, Inc.
Troemner, Henry

SCALES, Automatic
Automatic Scale Co.
Buffalo Scale Co.
Chatillon & Sons
Exact Weight Scale
Fairbanks, Morse & Co.
Gump Co.
Howe Scale Co.
International Bus. Mach.
Jacobs Bros. Co., Inc.
Kron Co.
Merrick Scale Mfg. Co.
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SCALES, Basis Weight
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Becker, Inc., Christian
Buffalo Scale Co.
Exact Scale Co.
Howe Scale Co.
Kron Co.
Seederer-Kohlbusch
Thwing-Albert Instrument
Toledo Scale Co.
Torsion Balance Co.
Triner Sales Co.

SCALES, Bulk Weighing
Becker, Inc., Christian
Buffalo Scale Co.
Chatillon & Sons
Exact Weight Scale Co.
Fairbanks, Morse & Co.
Howe Scale Co.
Jacobs Bros. Co.
Kron Co.
Merrick Scale Mfg.
Richardson Scale Co.
Schaffer Poidometer Co.
Streeter-Amet Co.
Toledo Scale Co.
Torsion Balance Co.
Triangle Package Mach.
Triner Sales Co.
Troemner, Henry

SCALE, Cement Batching
Buffalo Scale Co.
Exact Weight Scale Co.
Fairbanks, Morse & Co.
Howe Scale Co.
Kron Co.
Richardson Scale Co.
Streeter-Amet Co.
Toledo Scale Co.
Triner Sales Co.

SCALES, Checking
Becker, Inc., Christian
Buffalo Scale Co.
Chatillon & Sons
Exact Weight Scale Co.
Fairbanks, Morse & Co.
Jacobs Bros. Co., Inc.
Kron Co.
Merrick Scale Mfg. Co.
Richardson Scale Co.
Toledo Scale Co.
Torsion Balance Co.
Triner Sales Co.

SCALES, Classifying
Chatillon & Sons
Exact Weight Scale Co.
Jacobs Bros. Co., Inc.
Kron Co.
Merrick Scale Mfg. Co.
Toledo Scale Co.
Triner Sales Co.

SCALES Computing
Amthor Testing Inst.
Exact Weight Scale
International Bus. Mach.
Jacobs Bros., Inc.
Toledo Scale Co.
Triner Sales Co.

SCALES, Continuous Weighing
Buffalo Scale Co.
Builders-Providence
Exact Weight Scale Co.
Fairbanks, Morse & Co.
Gump Co.
Jacobs Bros. Co.
Jeffrey Mfg. Co.
Kron Co.
Merrick Scale Mfg. Co.
Richardson Scale Co.
Schaffer Poidometer Co.
Streeter-Amet Co.
Toledo Scale Co.
Triangle Package Mach.
United Cinephone Corp.

SCALES, Conveyor
Builders-Providence
Exact Weight Scale Co.
Fairbanks, Morse & Co.
Howe Scale Co.
International Bus. Mach.
Kron Co.
Merrick Scale Mfg. Co.
Richardson Scale Co.
Schaffer Poidometer Co.
Streeter-Amet Co.
Toledo Scale Co.

SCALES, Counting
Amthor Testing Inst. Co.
Buffalo Scale Co.
Chatillon & Sons
Exact Weight Scale Co.
Fairbanks, Morse & Co.
Howe Scale Co.
International Bus. Mach.
Jacobs Bros. Co.
Kron Co.
Seederer-Kohlbusch
Toledo Scale Co.
Triner Sales Co.
United Cinephone Corp.

SCALES, Crane
Buffalo Scale Co.
Chatillon & Sons
Fairbanks, Morse & Co.
Howe Scale Co.
Kron Co.
Martin Decker Corp.

SCALES, Dairy
Becker, Inc., Christian
Buffalo Scale Co.
Central Scientific Co.
Chatillon & Sons
Exact Weight Scale Co.
Fairbanks, Morse & Co.
Howe Scale Co.
Humboldt Mfg. Co.
International Bus. Mach.
Jacobs Bros. Co.
Kron Co.
Streeter-Amet Co.
Toledo Scale Co.
Torsion Balance Co.
Triner Sales Co.
Troemner, Henry

SCALES, Differential
Chatillon & Sons
Exact Weight Scale Co.
Fairbanks, Morse & Co.
Jacobs Bros. Co., Inc.
Kron Co.
Thwing-Albert Instrument

SCALES, Drawing (See Drawing Instruments)

SCALES, Dump
Buffalo Scale Co.
Exact Weight Scale Co.
Fairbanks, Morse & Co.
Howe Scale Co.
Kron Co.
Toledo Scale Co.

SCALES, Dynamometer
Central Scientific Co.
Chatillon & Sons
Dillon & Co.
Exact Weight Scale
Fairbanks, Morse & Co.
Howe Scale Co.
Kron Co.
Martin Decker Corp.
Seederer-Kohlbusch, Inc.
Toledo Scale Co.

SCALES, Estimating
Exact Weight Scale Co.
Jacobs Bros. Co.
Seederer-Kohlbusch, Inc.
Troemner, Henry

SCALES, Grain & Seed Testing
Amthor Testing Inst. Co.
Automatic Scale Co.
Becker, Inc., Christian
Buffalo Scale Co.
Central Scientific Co.
Chatillon & Sons
Exact Weight Scale Co.
Fairbanks, Morse & Co.
Fisher Scientific Co.
Gump Co.
Howe Scale Co.
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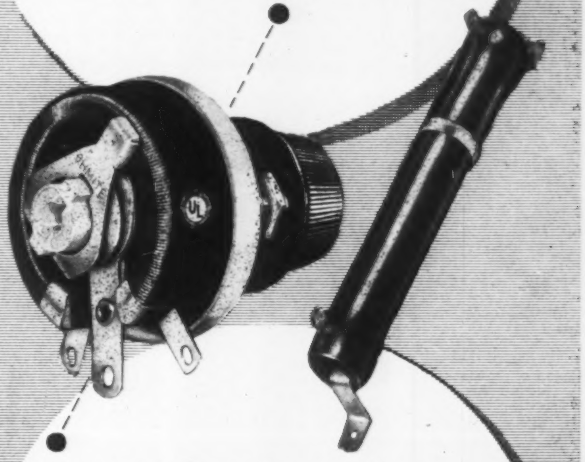

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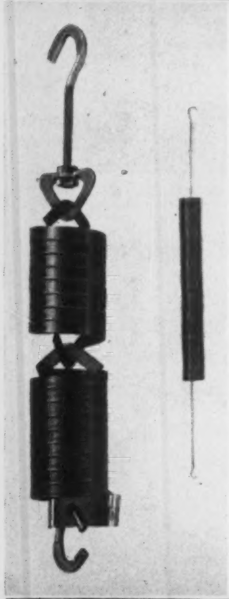

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Streeter-Amet Co.
Toledo Scale Co.
Torsion Balance Co.
Triangle Package Mach.
Triner Sales Co.
Troemner, Henry

SCALES, Hopper
Buffalo Scale Co.
Chatillon & Sons
Exact Weight Scale
Fairbanks, Morse & Co.
Gump Co.
Howe Scale Co.
Jacobs Bros. Co.
Kron Co.
Richardson Scale Co.
Streeter-Amet Co.
Toledo Scale Co.

SCALES, Laboratory
Becker, Inc., Christian
Buffalo Scale Co.
Central Scientific Co.
Chatillon & Sons
Chicago Apparatus Co.
Exact Weight Scale Co.
Fairbanks, Morse & Co.
Fisher Scientific Co.
Howe Scale Co.
Humboldt Mfg. Co.
International Bus. Mach.
Jacobs Bros. Co.
Microchemical Service
Newark Scale Works
Seederer-Kohlbusch, Inc.
Toledo Scale Co.
Torsion Balance Co.
Troemner, Henry

SCALES, Larry Car
Buffalo Scale Co.
Fairbanks, Morse & Co.
Howe Scale Co.
Kron Co.
Richardson Scale Co.
Streeter-Amet Co.
Toledo Scale Co.

SCALES, Liquid
Jacobs Bros. Co., Inc.
Merrick Scale Mfg.
Richardson Scale Co.

SCALES, Loss of Weight
Becker, Inc., Christian
Buffalo Scale Co.
Exact Weight Scale Co.
Jacobs Bros. Co.
Kron Co.
Seederer-Kohlbusch, Inc.
Streeter-Amet Co.
Toledo Scale Co.
Torsion Balance Co.

SCALES, Measuring
Automatic Scale Co.
Howe Scale Co.
Kron Co.
Richardson Scale Co.
Triner Sales Co.

SCALES, Over & Under
Becker, Inc., Christian
Buffalo Scale Co.
Exact Weight Scale Co.
Fairbanks, Morse & Co.
Howe Scale Co.
International Bus. Mach.
Jacobs Bros. Co.
Moisture Register Co.
Streeter-Amet Co.
Toledo Scale Co.
Torsion Balance Co.
Triner Sales Co.
Troemner, Henry

SCALES, Packaging
Automatic Scale Co.
Becker, Inc., Christian
Exact Weight Scale Co.
Fairbanks, Morse & Co.
Gump Co.
Howe Scale Co.
Kron Co.
International Bus. Mach.
Jacobs Bros. Co.
Pneumatic Scale Corp.
Richardson Scale Co.
Toledo Scale Co.
Torsion Balance Co.
Triangle Package Mach.
Triner Sales Co.
Troemner, Henry

SCALES, Platform
Becker, Inc., Christian
Buffalo Scale Co.
Chatillon & Sons
Exact Weight Scale Co.
Fairbanks, Morse & Co.
Gump Co.
Howe Scale Co.
Humboldt Mfg. Co.
International Bus. Mach.
Knowles Scale Works
Kron Co.
Streeter-Amet Co.
Toledo Scale Co.
Torsion Balance Co.
Triner Sales Co.

SCALES, Portable
Black & Decker
Buffalo Scale Co.
Central Scientific Co.
Chatillon & Sons
Exact Weight Scale
Fairbanks, Morse & Co.
(Cont'd)

SCALES, Portable
(Cont'd)
Gump Co.
Howe Scale Co.
International Bus. Mach.
Jacobs Bros. Co.
Knowles Scale Works
Kron Co.
Richardson Scale Co.
Toledo Scale Co.
Triner Sales Co.

SCALES, Predetermined Weight
Becker, Inc., Christian
Buffalo Scale Co.
Exact Weight Scale Co.
Fairbanks, Morse & Co.
Gump Co.
Howe Scale Co.
International Bus. Mach.
Jacobs Bros. Co.
Merrick Scale Mfg. Co.
Richardson Scale Co.
Schaffer Poidometer Co.
Seederer-Kohlbusch, Inc.
Streeter-Amet Co.
Toledo Scale Co.
Torsion Balance Co.
Triner Sales Co.

SCALES, Recording
Buffalo Scale Co.
Fairbanks, Morse & Co.
Howe Scale Co.
Kron Co.
Merrick Scale Mfg. Co.
Richardson Scale Co.
Streeter-Amet Co.
Toledo Scale Co.
Wallace & Tiernan

SCALES, Remote Indicating
Merrick Scale Mfg.
Toledo Scale Co.

SCALES, Rolling Mill
Buffalo Scale Co.
Fairbanks, Morse & Co.
Howe Scale Co.
Kron Co.
Streeter-Amet Co.
Toledo Scale Co.

SCALES, Sacking (See Scales, Bag-filling)

SCALES, Selecting
Exact Weight Scale
Merrick Scale Mfg.
Toledo Scale Co.
United Cinephone Corp.

SCALES, Solder Test
Central Scientific Co.
Exact Weight Scale
Seederer-Kohlbusch, Inc.
Troemner, Henry

SCALES, Steel
Exact Weight Scale
Fairbanks, Morse & Co.
Howe Scale Co.
Kron Co.
Lufkin Rule Co.
Streeter-Amet Co.
Toledo Scale Co.

SCALES, Testing
Becker, Inc., Christian
Buffalo Scale Co.
Chatillon & Sons
Exact Weight Scale
Gump Co.
Howe Scale Co.
Humboldt Mfg. Co.
Jacobs Bros. Co.
Kron Co.
Newark Scale Works
Toledo Scale Co.
Torsion Balance Co.

SCALES, Textile
Becker, Inc., Christian
Buffalo Scale Co.
Exact Weight Scale Co.
Fairbanks, Morse & Co.
Howe Scale Co.
International Bus. Mach.
Kron Co.
Saxl Instrument Co.
Seederer-Kohlbusch, Inc.
Streeter-Amet Co.
Suter, Alfred
Toledo Scale Co.
Torsion Balance Co.
Triner Sales Co.

SCALES, Track
Buffalo Scale Co.
Fairbanks, Morse & Co.
Howe Scale Co.
Kron Co.
Streeter-Amet Co.
Toledo Scale Co.

SCALES, Truck
Black & Becker
Buffalo Scale Co.
Exact Weight Scale Co.
Fairbanks, Morse & Co.
Howe Scale Co.
Streeter-Amet Co.
Toledo Scale Co.

SCALES, Water Meter
Altender & Sons
Exact Weight Scale
Fairbanks, Morse & Co.
Jacobs Bros. Co.
Kron Co.
Toledo Scale Co.

SCALES, Yardage
Amthor Testing Inst.
Brown & Sharpe
Buffalo Scale Co.
Exact Weight Scale
Fairbanks, Morse & Co.
Howe Scale Co.
International Bus. Mach.
Kron Co.
Toledo Scale Co.

SCREENS, Solar Projecting
Fecker, J. W.

SCREENS, X-Ray Fluoroscopic
General Electric X-Ray
Kelley-Koett Mfg. Co.
Patterson Screen Co.
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SCREENS, X-Ray Intensifying (See Screens X-Ray Fluoroscopic)

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Brooke Engineering
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Scientific Inst. Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
United Transformer
Wheelco Instruments

SERVO-MOTORS, Electric Motor
Brown Inst. Co.
Eclipse Aviation
General Regulator Corp.
L. A. B. Corp.
Minneapolis-Honeywell

SERVO-MOTORS, Electric Solenoid
Brown Inst. Co.
Eclipse Aviation
Ruggles-Klingemann

SERVO-MOTORS, Hydraulic
Askania Regulator Co.
Eclipse Aviation
General Regulator Corp.
Hagan Corp.
Mason-Neilan Regulator
Ruggles-Klingemann

SERVO-MOTORS, Mechanical
Hagan Corp.

SERVO-MOTORS, Pneumatic
Askania Regulator Co.
Brown Inst. Co.
Hagan Corp.
Mason-Neilan Regulator
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Master Optical Co.
Negus, T. S. & J. D.
Pioneer Instrument Co.
Roth Brothers
Warren-Knight Co.
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Kenyon Instrument Co.
Negus, T. S. & J. D.
Pitometer Log Corp.

SHUNT METERS (See Meters, Shunt)

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De Jur-Amsco
Esterline-Angus Co.
General Elec. Co.
Hickok Elec. Inst. Co.
International Resistance
Precision Resistor Co.
Radio City Products Co.
Rawson Electrical Inst.
Roller-Smith Co.
Rubicon Co.
Sensitive Research Inst.
Shallcross Mfg.
Triplett Electrical Inst.
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.

SHUNTS, Standard
Cambridge Instrument Co.
De Jur-Amsco
Esterline-Angus Co.
General Electric Co.
Gray Instrument Co.
Hickok Electrical Inst.
Instrument Resistors, Inc.
International Resistance
Leeds & Northrup Co.
Roller-Smith Co.
Rubicon Co.
Shallcross Mfg.
Triplett Elec. Inst. Co.
Weston Elec. Inst. Corp.

SIEVE SHAKERS
Braun Corp.
Newark Wire Cloth
Precision Scientific

SIEVES, TESTING
American Inst. Co.
Central Scientific Co.
Dietert Co.
Fisher Scientific Co.
Humboldt Mfg. Co.
Newark Wire Cloth
Precision Scientific Co.
Riehle Division
Scientific Inst. Co.
Weber Brothers Metal

SIGHT FEED BUBBLERS
Meriam Co.

SIGHT METERS
De Jur-Amsco
General Elec. Co.
G-M Labs.
Weston Elec. Inst. Corp.

SIGHTS, GUN, Telescopic
Bausch & Lomb Opt.
Buhl Optical
Clark & Sons
Fecker, J. W.
Kollmorgen Optical Co.
Perkin-Elmer Corp.
Zeiss, Inc., Carl

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Betts & Betts
Bullard Co.
Cincinnati Time Rec.
Elec. Indicator Corp.
Foxboro Co.
General Elec. Co.
Guardian Elec. Mfg. Co.
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SIGNALING DEVICES, Automatic (Cont'd)
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International Bus. Mach.
Leslie Co.
Leupold & Stevens
National Time & Signal
Production Instrument
Spence Engineering Co.
Thompson Clock Co.
United Cinephone Corp.
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Weston Elec. Inst. Corp.
Worner Products

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SOLAR PROJECTING SCREEN (See Screen, Solar Projecting)

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Triplett Electrical Inst.
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Weston Elec. Inst. Corp.

SOUNDING LEADS
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Bliss & Co.
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Kuner Co., Max
Moeller Instrument Co.
Negus, T. S & J. D.

SOUNDING MACHINES
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Bendix Marine Products
Kenyon Instrument Co.
Kuner Co., Max
Moeller Instrument Co.
Negus, T. S & J. D.
Submarine Signal Co.

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Kimble Glass Co.
Moeller Instrument Co.
Negus, T. S. & J. D.

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Fischer & Porter
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Bausch & Lomb Optical
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Fuess, Inc.
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Bausch & Lomb Optical
Fuess, Inc.
Gaertner Scientific
Jarrell-Ash Co.
Spencer Lens Co.

SPECTROMETERS, Recording Mass
Consolidated Engg.

SPECTROMETER, Infra-Red
Gaertner Scientific Corp.
Jarrell-Ash Co.

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SPECTRO-PHOTOMETERS (See Photometers, Spectro)

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Fuess, Inc.
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Leitz, Inc.
Spencer Lens Co.

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Gaertner Scientific Corp.

SPECTROSCOPES, Stellar
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Central Scientific Co.
Eastern Science Co.
Fecker, J. W.
Mico Instrument Co.
Perkins-Elmer Corp.
Zeiss, Inc., Carl

SPECTRUM TUBES
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Fuess, Inc.
Gaertner Scientific Corp.
General Physical Lab.
Jarrell-Ash Co.

SPEED, Indicators
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Anderson Co.
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Bailey Meter Co.
Biddle Co., Jas. G.
Boulin Instrument Corp.
Bristol Co.
Brown Inst. Co.
Commercial Engg. Labs.
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Jaeger Watch Co.
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Leeds & Northrup Co.
Martin Decker Corp.
McDonnell Odometer Co.
Metron Instrument
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Pioneer Instrument
Precision Therm.
Roller-Smith Co.
Scherr Co., Inc.
Sound Apparatus Co.
Starrett Co.
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Valve Pilot Corp. (Locomotive)
Veeder-Root, Inc.
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SPEED, Recorders (See Speed Indicators)

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MEASURING INSTRUMENTS · TELEMETERS · AUTOMATIC CONTROLS · HEAT-TREATING FURNACES

SPEED, Regulators (See Controllers, Automatic, Tachometric)

SPEED SYNCHRONIZING INDICATORS
- Electric Speed Ind. Co.

SPEEDOMETERS
- **Boulin Instrument Corp**
- Central Scientific Co.
- Corbin Screw Corp.
- **Cramer & Co., Inc.**
- Electric Auto-Lite
- **Elec. Tachometer Corp.**
- **General Elec. Co.**
- **Jones-Motrola**
- Knopf, Paul
- Stewart-Warner Corp.
- Westinghouse Elec. & Mfg.
- American Askania Corp.
- Central Scientific Co.
- Ferner Co.
- **Fish-Schurman Co.**
- Fuess, Inc.
- **Gaertner Scientific Corp.**
- **Merkle Korff Gear**
- Ruska & Co.
- Selsi Co., Inc.
- Welch Scientific Co.

SPHYGMOMANOMETERS
- Cambridge Inst. Co.
- Hellige, Inc.
- **Precision Thermometer**
- **Taylor Inst. Cos.**

SQUARES, Combination & Machinists'
- Brown & Sharpe
- Lufkin Rule Co.
- Mico Instrument Co.
- Starrett Co.
- Union Tool Co.
- Warren-Knight Co.

STANDARD CELLS (See Cells, Standard)

STANDARDS, Capacitance
- **Cambridge Inst. Co.**
- **General Radio Co.**
- Industrial Instruments
- **Leeds & Northrup Co.**
- **Rubicon Co.**
- Solar Mfg. Corp.

STANDARDS, Color
- **Fish-Schurman Co.**
- Hellige, Inc.
- Munsell Color Co.
- **Tagliabue Mfg. Co.**

STANDARDS E.m.f.
- **Cambridge Inst. Co.**
- **Leeds & Northrup Co.**
- **Rubicon Co.**

STANDARDS, Frequency
- Andrew, Victor J.
- **Ferris Inst. Corp.**
- **General Radio Co.**
- **RCA Manufacturing**
- Warren Telechron Co.

STANDARDS, Inductance
- **Cambridge Inst. Co.**
- **General Radio Co.**
- **Leeds & Northrup Co.**
- **Rubicon Co.**

STANDARDS, Length
- **Gaertner Scientific Corp.**
- Gurley, W. & L. E.
- **Van Keuren Co.**

STANDARDS, Mass
- Gurley, W. & L. E.
- Seederer-Kohlbusch, Inc.

STANDARDS, Potential
- **Leeds & Northrup Co.**
- **Rubicon Co.**

STANDARDS, Pressure
- Green, Henry J.
- **Precision Therm.**

STANDARDS, Resistance
- **Beck Bros.**
- **Cambridge Inst. Co.**
- **General Radio Co.**
- **International Resistance**
- **Leeds & Northrup Co.**
- **Rubicon Co.**
- **Shallcross Mfg. Co.**
- **Sticht & Co.**
- **Ward Leonard Elec. Co.**

STANDARDS, Sound Level
- **General Radio Co.**

STANDARDS, Temperature
- Green, Henry J.
- **Leeds & Northrup Co.**
- **Moeller Instrument Co.**
- **Precision Therm.**
- **Tagliabue Mfg. Co.**

STANDARDS, Time
- **Gaertner Scientific Corp.**
- **General Radio Co.**
- **Standard Elec. Time Co.**
- Warren Telechron Co.

STANDARDS, Volume
- Gurley, W. & L. E.

STARTERS, MOTOR
- Allen-Bradley Co.
- Cutler-Hammer, Inc.
- Eclipse Aviation
- **General Elec. Co.**
- Monitor-Controller Co.
- Penn Electric Switch Co.
- Schaefer Bros. Co.
- **Ward Leonard Elec. Co.**

STATION CONTROL EQUIPMENT
- **American Meter Co.**
- Arca Regulators, Inc.
- Elec. Indicator Corp.
- **General Elec. Co.**
- **RCA Manufacturing**

STEAM METERS (See Flow Meters, Steam)

STEEL TAPES (See Tapes, Steel)

STELLAR SPECTROSCOPES (See Spectroscopes, Stellar)

STEREOSCOPES, X-Ray
- Abrams Instrument
- Bausch & Lomb Optical
- Kelley-Koett Mfg. Co.
- Westinghouse X-Ray Co.

STETHOSCOPES, ENGINEERS
- **Brush Development Co.**
- Test-A-Tone Co.

STIFFNESS TESTERS, PAPER (See Tester, Stiffness, Paper)

STILLS, AUTOMATIC WATER
- Barnstead Still & Steril.
- Central Scientific Co.
- **Fish-Schurman Co.**
- **Precision Scientific**
- Specialty Glass Co.
- **Stokes Machine Co.**
- Weber Bros. Metal Works

STIRRERS, LABORATORY, Variable Speed
- Eastern Engg. Co.
- **Precision Scientific**
- Technical Products

STOP WATCHES (See Watches, Stop)

STRAIGHT EDGES
- **Brown & Sharpe**
- Dietzen Co.
- **Ford Motor Co.**
- Keuffel & Esser Co.
- George Scherr Co.
- Soltmann, Inc.
- Speidel & Co.
- Warren-Knight Co.
- Weber Co., F.
- White Co. Inc.

STRAIGHTENING VANES
- Robinson Orifice Fitting

STRAIN GAGES (See Gages, Strain)

STRAIN TESTERS, GLASS (See Testers, Strain (Glass)

STRAIN-TIME RECORDERS
- Baldwin-Southwark Corp.
- Keuffel & Esser Co.
- Cambridge Inst. Co.

STREAM GAGING INSTRUMENTS
- Gurley, W. & L. E.
- Keuffel & Esser Co.
- **Morey & Jones, Ltd.**

STOP WATCHES see Watches, Stop

STRESS INDICATORS
- **Ames Co., B. C.**
- Baldwin-Southwark Corp.
- **Cambridge Inst. Co.**
- Martin Decker Corp.
- Metron Instrument
- **Riehle Div.**

STRESS-STRAIN, Indicators
- **Ames Co., B. C.**
- Baldwin-Southwark Corp.
- Metron Instruments

STRESS-STRAIN, Recorders
- Baldwin-Southwark Corp.
- **Cambridge Inst. Co.**
- **Consolidated Engg.**
- Metron Instruments
- Olsen Testing Machine
- **Riehle Div.**

STROBOSCOPES
- **Boulin Inst. Corp.**
- **Commercial Engg. Labs.**
- Knickerbocker Dev.
- **L. A. B. Corp.**
- Pioneer Instrument
- **Welch Mfg. Co.**
- Westinghouse Elec. & Mfg.
- Zeiss, Inc., Carl

SULPHUR BOMBS (See Bombs, Sulphur)

SULPHUR DIOXIDE, Indicators (See Gas Analyzers, Sulphur Dioxide) Recorders (See Gas Analyzers, Sulphur Dioxide)

SUNSHINE, Indicators & Recorders
- **Cambridge Inst. Co.**
- Esterline-Angus Co.
- **Friez & Sons**
- Fuess, Inc.
- G. M. Mfg. Co., Inc.
- **Leeds & Northrup**
- **Taylor Inst. Cos.**
- White Co. Inc.

SUPERVISORY CONTROL EQUIPMENT
- American Automatic Elec.
- Autocall Co.
- **Bristol Co.**
- Control Corp.
- **Cramer & Co., Inc.**
- **General Elec. Co.**
- **Guardian Elec. Mfg. Co.**
- **Leeds & Northrup Co.**
- **Tagliabue Mfg. Co.**

SURFACE FINISH TESTERS
- **Brush Development Co.**
- Physicists Research

SURFACE GAGES (See Gages, Surface)

SURFACE PLATES, GLASS
- **Bausch & Lomb Optical**
- Clark & Sons
- **Fecker, J. W.**
- **Fish-Schurman Co.**
- Ruska & Co.
- Zeiss, Inc., Carl

SURGE CREST AMMETERS (Ammeters, Surge-Crest)

SURGE, Indicators & Recorders
- Elec. Indicator Corp.
- **General Elec. Co.**
- Esterline-Angus Co.

SURVEYING INSTRUMENTS
- Abrams Instrument
- Alpha Instrument Co.
- Beckman Co.
- Berger & Sons
- Bliss & Co.
- Bostrom-Brady
- Dietzen Co.
- Goldak Co.
- Gurley, W. & L. E.
- Kenyon Instrument Co.
- Kern Co.
- Keuffel & Esser Co.
- Kolesch & Company
- Leupold & Stevens
- **Pittsburgh Inst. & Mach.**
- Post Co., Frederick
- Speedometer Electric Co.
- Speidel & Co.
- J. C. Ulmer Co.
- United States Blue Print
- Warren-Knight Co.
- Weber Co.
- White Co. Inc.
- **Zeiss, Inc., Carl**

SURVEYING INSTRUMENTS, Aneroids
- Am. Paulin System

SURVEYING INSTRUMENTS, Underground, for wells or bore holes
- H. Cole Co.
- Driftmeters, Inc.
- Engineering Labs., Inc.
- **Geophysical Inst. Co.**
- Halliburton Oil Well
- **Heiland Research**
- Ruska & Co.
- Sperry-Sun Well Survey
- Warren-Knight Co.
- David White Co. Inc.

SURVEYOR'S CHAINS (See Surveying Instruments)

SWITCHES, Air-operated
- **Johnson Service Co.**
- **Shallcross Mfg. Co.**
- **Tagliabue Mfg. Co.**

SWITCHES, Automatic Transfer
- Allen-Bradley Co.
- **Allied Control Co.**
- Anderson, A. & J. M.
- Arrow-Hart & Hegeman
- Autocall Co.
- Automatic Electric
- Automatic Switch Co.
- **Barber-Colman**
- **Cramer & Co., Inc.**
- Cutler-Hammer, Inc.
- **General Elec. Co.**
- Hart Mfg. Co.
- Monitor Controller Co.
- **Ward Leonard Elec. Co.**
- Zenith Electric Co.

SWITCHES, Instrument
- **Allied Control Co.**
- Autocall Co.
- Automatic Electric
- **Barber-Colman**
- Furnas Electric Co.
- **General Elec. Co.**
- **J-B-L Inst. Co.**
- Kellogg Switchboard
- **Mallory & Co.**
- **Micro Switch Corp.**
- **Roller-Smith Co.**
- **Rubicon Co.**
- Sensitive Research Inst.
- **Shallcross Mfg.**
- **Thwing-Albert Instrument**
- **Triplett Elec. Inst. Co.**
- **United States Inst. Corp.**
- Westinghouse Elec. & Mfg.
- **Weston Elec. Inst. Corp.**

SWITCHES, Magnetic
- Allen-Bradley Co.
- **Allied Control Co.**
- Arrow-Hart & Hegeman
- Autocall Co.
- Automatic Switch Co.
- Cutler-Hammer, Inc.
- **General Elec. Co.**
- **Guardian Elec. Mfg. Co.**
- Hart Mfg. Co.
- Industrial Engr. Corp.
- Monitor Controller Co.
- Penn Electric Switch
- Perfex Corp.
- Struthers-Dunn
- **Ward Leonard Elec. Co.**
- **Warrick, C. F.**
- Zenith Electric Co.

SWITCHES, Mercury
- Arrow-Hart & Hegeman
- Bacon Electric Timer
- **Continental Elec. Co.**
- Elec. Switch Corp.
- **Frederick, George**
- General Elec. Co.
- Gen. Elec. Lamp Dept.
- Hart Mfg. Co.
- Minneapolis-Honeywell

SWITCHES, Push Button
- **Clare & Co., C. P.**
- Cutler-Hammer, Inc.
- Echo Electrical

SWITCHES, Pyrometer
- **Brown Inst. Co.**
- **J-B-T Insts. Inc.**
- **Lewis Engg. Co.**
- Rowe Research Lab.
- **Tagliabue Mfg. Co.**
- **Thwing-Albert Inst. Co.**
- **Weston Elec. Inst. Corp.**
- **Wheelco Instruments**

SWITCHES, Relay
- Allen-Bradley Co.
- **Allied Control Co.**
- Andrew, Victor J.
- Amer. Automatic Elec.
- Arrow-Hart & Hegeman
- Autocall Co.
- Automatic Switch Co.
- **Betts & Betts**

(Cont'd)

SWITCHES, Relay (Cont'd)
- Cutler-Hammer, Inc.
- Eclipse Aviation
- Edison, Instrument Div.
- **Friez & Sons**
- **General Controls Co.**
- **General Elec. Co.**
- **Guardian Elec. Mfg. Co.**
- Hart Mfg. Co.
- Industrial Engr. Corp.
- Kellogg Switchboard
- **Mallory & Co.**
- Monitor Controller Co.
- Penn Electric Switch
- Perfex Corp.
- Struthers-Dunn
- **Ward Leonard Elec. Co.**
- Zenith Electric Co.

SWITCHES, Rotary
- Amer. Automatic Elec.
- Arrow-Hart & Hegeman
- Autocall Co.
- **Barber-Coleman**
- **Daven Co.**
- Furnas Electric Co.
- **General Elec. Co.**
- **Guardian Elec. Mfg. Co.**
- Hart Mfg. Co.
- **J-B-T Insts.**
- **Lewis Engg. Co.**
- **Mallory & Co.**
- **Ohmite Mfg. Co.**
- **Roller-Smith Co.**
- **Rubicon Co.**
- Sensitive Research Inst.
- **Shallcross Mfg. Co.**
- **Tagliabue Mfg. Co.**
- **Thwing-Albert Inst. Co.**
- **Triplett Electrical Inst.**
- **Weston Elec. Inst. Corp.**

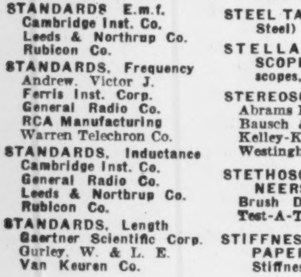
SWITCHES, Snap
- Arrow-Hart & Hegeman
- Cutler-Hammer, Inc.
- **General Elec. Co.**
- Hart Mfg. Co.
- **Mallory & Co.**
- McDonnell & Miller
- Micro Switch Corp.
- Minneapolis-Honeywell
- Perfex Corp.
- **Ward Leonard Elec. Co.**

SWITCHES, Snap Action
- Acro Electric
- **Micro Switch**
- Mu-Switch Corp.

SWITCHES, Thermostatic
- Advance Electric Co.
- Allen-Bradley Co.
- **Betts & Betts**
- **Burling Instrument Co.**
- Cook Electric Co.
- **Dunn, Inc., Struthers**
- Edison, Instrument Div.
- **Friez & Sons**
- Gleason-Avery, Inc.
- **Guardian Electric**
- Hart Manufacturing Co.
- Minneapolis-Honeywell
- Penn Electric Switch Co.
- Perfex Corp.
- **Shallcross Mfg. Co.**
- Spencer Thermostat Co.
- **Tagliabue Mfg.** Co., C. J.
- Ulanet Co., George
- **Ward Leonard Electric Co.**

SWITCHES, Time
- American Timer Corp.
- Anderson, A. & J. M.
- Autocall Co.
- **Automatic Elec. Mfg.**
- Bacon Electric Timer
- **Betts & Betts**
- **Cramer & Co., Inc.**
- Eagle Signal Corp.
- Edison, Instrument Div.
- **General Elec. Co.**
- **Guardian Elec. Mfg. Co.**
- Industrial Engr. Corp.
- Industrial Timer
- International Register Co.
- **Landis & Gyr, Inc.**
- **Mallory & Co.**
- Minneapolis-Honeywell
- Paragon Electric Co.
- Penn Electric Switch
- Perfex Corp.
- Rhodes, Inc., M. H.
- Sangamo Electric Co.
- Seely Instrument Co.
- States Co.
- Thomas Clock Co., Seth
- **Thompson Clock Co.**
- Wadsworth Elec. Mfg. Co.
- Walser Automatic Timer
- **Ward Leonard Elec. Co.**
- Zenith Electric Co.

SYNCHRONIZATION FORKS, Electrical (See Forks, Synchronization)



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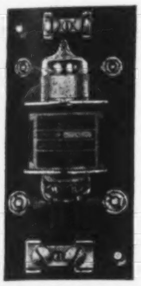

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Manufacturers of H B Electrical Devices

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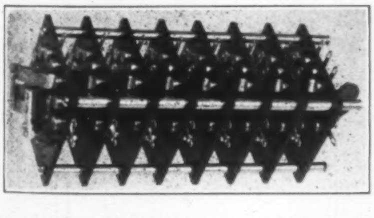
J-B-L INSTRUMENT CO.

Manufacturers of

ROTARY SWITCHES

for

INSTRUMENT, ELECTRICAL AND INDUSTRIAL APPLICATIONS



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Submit Your Switch Problem

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SYNCHROSCOPES
- Eclipse Aviation
- Electric Controller
- **General Elec. Co.**
- **Hickok Elec. Inst. Co.**
- **Kollsman Inst. Co.**
- **Roller-Smith Co.**
- Westinghouse Elec. & Mfg.
- **Weston Elec. Inst. Corp.**

TACHOGRAPHS
- **Amthor Testing Inst.**
- **Biddle Co., Jas. G.**
- Coats Mach. Tool Co.
- **Cramer & Co., Inc.**
- Metron Instrument
- Ohmer Register Co.
- Zeiss, Inc., Carl
- Zernickow Co., O.

TACHOMETER TESTERS (See Testers, Tachometer)

TACHOMETERS, Centrifugal
- **Amthor Testing Inst. Co.**
- **Barbour Stockwell Co.**
- **Biddle Co., Jas. G.**
- **Boulin Instrument Corp.**
- Coats Mach. Tool Co.
- Corbin Screw Corp.
- **Durant Mfg. Co.**
- **Elec. Tachometer Corp.**
- **Foxboro Co.**
- **Hays Corp.**
- **Jones Motrola Sales**
- Kern Co.
- **Knopf, Paul**
- **Kollsman Inst. Co.**
- Manning, Maxwell & Moore
- Pioneer Instrument Co.
- Scherr Co., Inc.
- Stewart-Warner Corp.
- **Sticht & Co.**
- **Veeder-Root, Inc.**
- Viking Instrument Co.
- Zernickow Co., O.

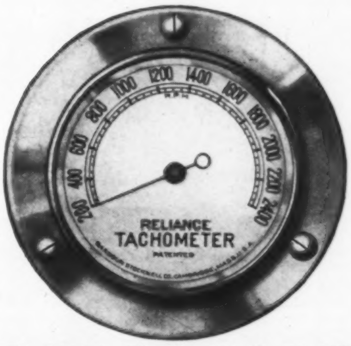
TACHOMETERS, Chronometric
- **Amthor Testing Inst.**
- **Biddle Co., Jas. G.**
- **Boulin Instrument Corp.**
- Coats Mach. Tool Co.
- **Cramer & Co., Inc.**
- **Elec. Tachometer Corp.**
- **Elgin Nat'l Watch Co.**
- Hasler-Tel Co.
- Jaeger Watch Co.
- Kern Co.
- Pierce Watch Co.
- Scherr Co., Inc.
- **Standard Elec. Time**
- **Sticht & Co.**
- Stover-Lang Co.
- Zernickow Co., O.

TACHOMETERS, Cross-pendulum
- **Amthor Testing Inst.**
- **Biddle Co., Jas. G.**
- Coats Mach. Tool Co.
- **Sticht & Co.**
- Zernickow Co., O.

TACHOMETERS, Electric
- Airdesign & Fabrication
- **Anderson Co.**
- **Bristol Co.**
- **Brown Inst. Co.**
- Electric Speed Ind. Co.
- **Elec. Tachometer Corp.**
- Esterline-Angus Co.
- **Foxboro Co.**
- **General Elec. Co.**
- Hathaway Inst. Co.
- **Hickok Elec. Inst. Co.**
- Hy-Ef Electrical Prods.
- Jaeger Watch Co.
- **J-B-T Instruments**
- **Jones Motrola Sales**
- Knickerbocker Dev.
- **Kollsman Inst. Co.**
- Lantz-Phelps Corp.
- Martin Decker Corp.
- Metron Instruments
- Moisture Register Co.
- National Instrument Co.
- Pioneer Instrument Co.
- Pitometer Log Corp.
- Potter Co.
- Scherr Co., Inc.
- **Sticht Co., Inc.**
- Westinghouse Elec. & Mfg.
- **Weston Elec. Inst. Corp.**
- Winslow Co.
- Zip Abrasive Co.

TACHOMETERS, Electromagnetic
- Cummings Mach. Works
- Electric Auto-Lite
- Jaeger Watch Co.
- **Kollsman Inst. Co.**
- National Instrument Co.
- Pioneer Instrument
- **Standard Elec. Time Co.**
- Stewart-Warner Corp.
- Waltham Watch
- Zernickow Co., O.

TACHOMETERS, Fly-ball
- **Biddle Co., Jas. G.**
- Coats Mach. Tool Co.
- **Elec. Tachometer Corp.**
- **Jones Motrola Sales**
- Kern Co.
- **Sticht & Co.**
- Viking Instrument Co.



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Reliance has a high performance record of more than 25 years on marine and stationary engines, newspaper presses, textile machinery, fire engine pumping equipment and many other types of mobile and plant installations.

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BARBOUR STOCKWELL COMPANY

CAMBRIDGE, MASS.

ELECTRICAL TACHOMETERS

0
200
400
600
800
1000
R.P.M.
WESTON
4
8
12
16
20

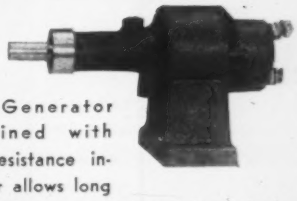
Quickly installed simply by wiring indicator to magneto. No flexible shafting employed. Indicators can be calibrated in RPM or other units. Several indicators can be connected to one magneto and mounted wherever desired. Widely used on pumping and conveyor systems, ovens, kilns, etc. Bulletin available. Weston Electrical Instrument Corporation, 591 Frelinghuysen Ave., Newark, New Jersey.

WESTON *Instruments*

ELECTRIC TACHOMETERS

Electric Tachometers for all ranges of speed

15
30
45
60
75
FEET PER MINUTE
THE WINSLOW CO., INC.



A.C. Generator combined with high-resistance indicator allows long lines between generator and point of reading.

Calibration can be made in any units which are a function of speed. Portable type also available.

Bulletins on request

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INCORPORATED

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Alternating current repulsion-type electrical indicating instruments, adapted from the latest Triplett designs and methods, are also in production at J-B-T Instruments, Inc. Unusual scale uniformity from 1/10 to full scale is featured. Coils are interchangeable for easy servicing.

Particular emphasis is given to the proper proportion and relation of the two iron vanes to the coil, thus providing a high ratio of torque to weight. Double inspection methods and latest refinements in construction assure serviceability and accuracy.

Anti-vibration jewels and pivots are available on order. Voltmeters and ammeters of 3½" panel type are now in service. Additional size and styles will be available throughout the year.

D.C. INSTRUMENTS

Permanent-magnet moving-coil direct current indicating instruments, based on proved and tested Triplett designs, are now being produced by J-B-T Instruments, Inc.

Maximum safeguards against vibration from any direction are provided by a double-supported all-metal bridge securely locked in place to permanently center the armature. Lasting accuracy results from carefully aligned laminated magnets on which no additional pole pieces are required. For special applications, cobalt magnets or anti-vibration jewels and bearings are provided.

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TACHOMETERS, Portable
- **Amthor Testing Inst. Co.**
- **Associated Research**
- **Biddle Co., Jas. G.**
- **Boulin Instrument Corp.**
- Corbin Screw Corp.
- **Elec. Tachometer Corp.**
- **Foxboro Co.**
- Hasler-Tel Co.
- **Jones Motrola Sales**
- Kern Co.
- Manning, Maxwell & Moore
- Martindale Electric Co.
- Metron Instruments
- Rieker Instrument Co.
- **Sticht & Co.**
- Viking Instrument Co.
- **Winslow Co.**
- Zernikow Co.

TACHOMETERS, Speed Limit Control
- **Barbour Stockwell Co.**

TACHOMETERS, Stroboscopic
- **Boulin Instrument Corp.**
- Coats Mach. Tool
- **General Radio Co.**
- **L. A. B. Corp.**
- Stewart-Warner Corp.

TACHOMETERS, Tilting-ring
- **Amthor Testing Inst. Co.**
- Coats Mach. Tool Co.
- Kern Co.
- **Zernikow Co.**

TACHOMETERS, Vibrating Reed
- **Biddle Co., Jas. G.**

TACHOSCOPES
- **Amthor Testing Inst. Co.**
- **Biddle Co., Jas. G.**
- Metron Instruments
- Scherr Co., Inc.
- **Sticht & Co.**
- Zernickow Co., O.

TAFFRAIL LOGS; SHIP
- Bliss & Co.

TANGENT METERS (See Meters, Tangent)

TAPE STRETCHER APPARATUS
- Ballauf Mfg. Co.

TAPES, Oil Gauger's
- Keuffel & Esser Co.

TAPES, Steel
- Dietzen Co.
- Keuffel & Esser Co.
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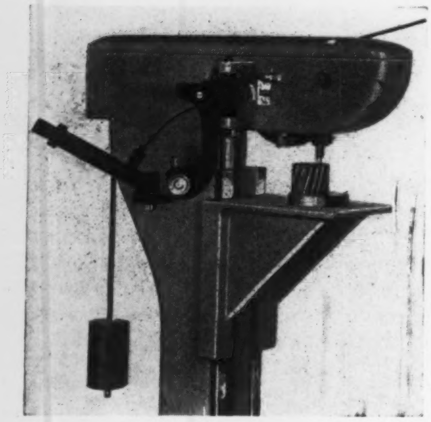

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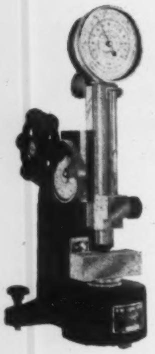

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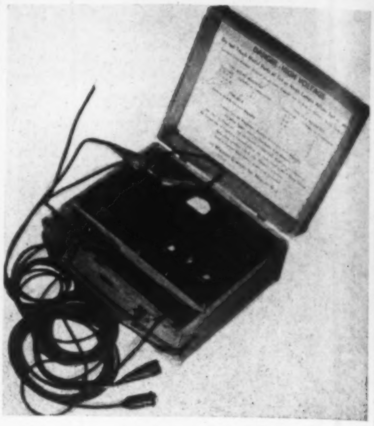

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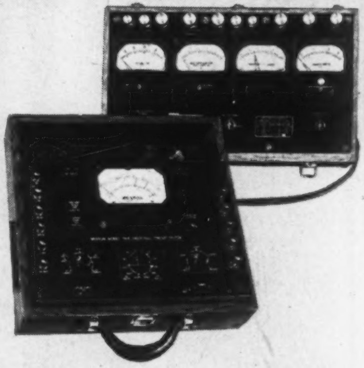

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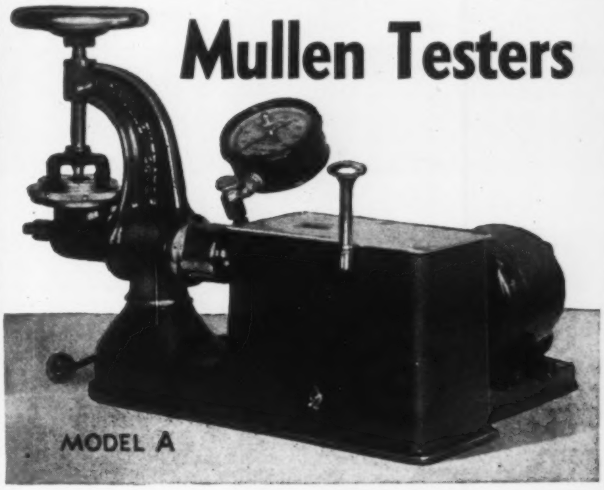

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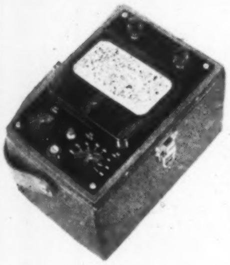

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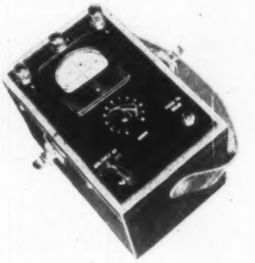

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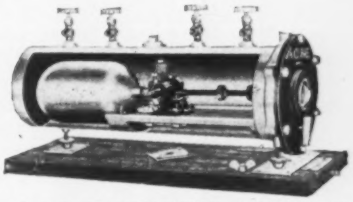

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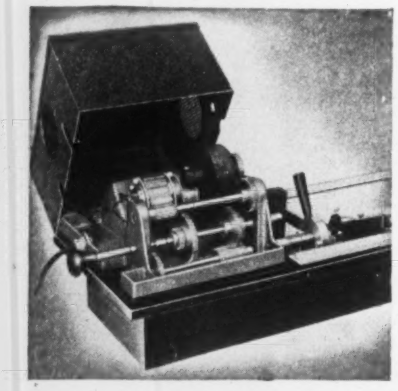

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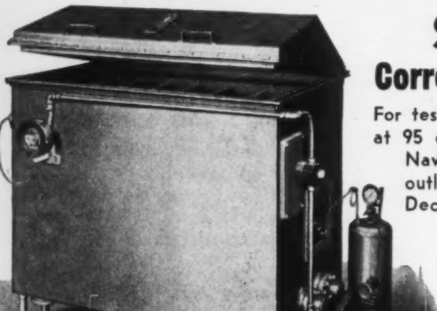

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Ruska & Co., Inc.
Sargent & Co.
Superior Meter Co.

TESTERS & TESTING MACHINES, Gear
Morse Twist Drill
Scherr Co., Inc.

TESTERS & TESTING MACHINES, Glue
Central Scientific Co.
Eimer & Amend
Fish-Schurman Co.
Olsen Testing Machine
Saxl Inst. Co.

TESTERS & TESTING MACHINES, Grain
Central Scientific Co.
Cuthbert Co.
Exact Weight Scale
Gump Co.
Moist-O-Meter, Inc.
Moisture Register Co.
Newark Scale Works
Precision Scientific Co.
Tagliabue Mfg. Co.
Toledo Scale Co.
Troemner, Henry

TESTERS & TESTING MACHINES, Grease (See Grease Testing Apparatus)

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Olsen Testing Machine

TESTERS & TESTING MACHINES, Ground Resistance
Automatic Electric
Biddle Co., Jas. G.
Geophysical Inst. Co.
Heiland Research
Industrial Insts. Inc.
Shallcross Mfg.
Sticht & Co.

TESTERS & TESTING MACHINES, Gummed Tape
Amthor Testing Inst.
Scott Co., Henry L.
Thwing-Albert Inst. Co.

TESTERS & TESTING MACHINES, Hardness
Barber-Colman Co.
Detroit Testing Mach.
Dietert Co.
Eitzen Co.
Ferner Co.
Fisher Scientific Co.
Gogan Machine
King, Andrew
Leitz, Inc.
Olsen Testing Machine
Pittsburgh Inst. & Mach.
Riehle Div.
Saxl Inst. Co.
Shore Instrument
Steel City Testing Lab.
Suter, Alfred
Teleweld, Inc.
Testing Machines, Inc.
Wilson Mech Inst. Co.
Zeiss, Inc., Carl

TESTERS & TESTING MACHINES, Hardness of Grindable Materials
Brabender Corp.

TESTERS & TESTING MACHINES, Hardness of Plastic Films
Munsell Color Co.
Saxl Inst. Co.
Steel City Testing Lab.
Taber Instrument Co.
Testing Machines, Inc.

For addresses, see pages I-107—I-118

TESTERS & TESTING MACHINES, High Altitude see Chambers, Instrument Test

TESTERS & TESTING MACHINES, High Pressure, for Hose Lines & hydraulic devices
Hydraulic Controls

TESTERS & TESTING MACHINES, Hydrogen-Ion (See Hydrogen Ion Determination Instruments)

TESTERS & TESTING MACHINES, Impact
Baldwin-Southwark Corp.
Cambridge Inst. Co.
Impact Register Co.
Olsen Testing Machine
Riehle Div.
Saxl Inst. Co.
Scott Co., Henry L.
Steel City Testing Lab.
Testing Machines, Inc.
Thwing-Albert Inst.
Saxl Inst. Co.
Zuhr. Inc., Henry

TESTERS & TESTING MACHINES, Initial Tearing
Scott Co., Henry L.
Suter, Alfred
Testing Machines, Inc.
Thwing-Albert Inst. Co.

TESTERS & TESTING MACHINES, Insulation
Associated Research
Automatic Electric
Biddle Co., Jas. G.
Clough-Brengle Co.
General Elec. Co.
General Radio Co.
Ideal Commutator Dresser
Industrial Insts. Inc.
Leeds & Northrup Co.
Martindale Electric Co.
Miller Co., Bertrand F.
Rawson Electrical Inst.
Rubicon Co.
Scott Co., Henry L.
Shallcross Mfg. Co.
Sticht Co., Inc.
Superior Insts.
United Transformer Corp.
Winslow Co.

TESTERS & TESTING MACHINES, Insulation (Thickness)
Comtor Co.
General Elec. Co.
Instrument Specialties Co.

TESTERS & TESTING MACHINES, Jelly
Brabender Corp.
Chatillon & Sons
Fish-Schurman Co.
Saxl Inst. Co.

TESTERS & TESTING MACHINES, Knit Goods (See Textile below)

TESTERS & TESTING MACHINES, Leather
Amthor Testing Inst. Co.
Central Scientific Co.
Olsen Testing Machine
Perkins & Son
Riehle Div.
Saxl Inst. Co.
Scott Co., Henry L.

TESTERS & TESTING MACHINES, Magnetic
Annis Co.
Associated Research
Baird Associates
Commercial Engg. Labs.
General Elec Co.
Magnetic Analysis Corp.
Pioneer Instrument
Rawson Elec. Instr. Co.
Rubicon Co.

TESTERS & TESTING MACHINES, Malt
Brabender Corp.
Rieker Instrument Co.

TESTERS & TESTING MACHINES, Mileage (See Meters, Mileage)

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Central Scientific Co.
Eimer & Amend
Kimble Glass
Munsell Color Co. Inc.
Rieker Inst. Co.
Ruehfel Co.
Scientific Glass App.
Testrite Instrument Co.
Tagliabue Mfg. Co.

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American Inst. Co.
American Moistening Co.
Brabender Corp.
Cambridge Inst. Co.
Central Scientific Co.
Cuthbert Co.
Delmhorst, Wm. J.
Dietert Co.
Eimer & Amend
Exact Weight Scale
Fisher Scientific Co.
Fuess, Inc.
Hart Moisture Gages
Humboldt Mfg. Co.
Industrial Inst. Inc.
Moist-O-Meter, Inc.
(Cont'd)

TESTERS & TESTING MACHINES, Moisture (Cont'd)
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Refinery Supply Co.
Saxl Inst. Co.
Scientific Glass App.
Sci Inst. Co. (of Detroit)
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Testing Machines, Inc.
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Toledo Scale Co.
Troemner, Henry
Williams Apparatus Co.

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Brabender Corp.
Central Scientific Co.
Eimer & Amend
Fish-Schurman Co.
Hellige, Inc.
Humboldt Mfg. Co.
Kimble Glass
Mico Instrument Co.
Precision Scientific Co.
Rieker Inst. Co.
Ruehfel Co.
Ruska & Co.
Scientific Glass App.
Scientific Inst. Co.
Tagliabue Mfg. Co.
Western Machinery Co.

TESTERS & TESTING MACHINES, Oxygen
Burrell Technical Supply
Eimer & Amend
Sargent & Co.
Scientific Glass App.
Scientific Inst. Co.
Tagliabue Mfg. Co.

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Akatos, Inc.
Atlas Elec. Devices Co.
Central Scientific Co.
Fish-Schurman Co.
Munsell Color Co.
Ruehfel Co.
Saxl Instr. Co.
Scott Co., Henry L.
Taber Instrument Co.
Van Keuren Co.
Zuhr, Inc., Henry

TESTERS & TESTING MACHINES, Paper
American Inst. Co.
Amthor Testing Inst. Co.
Atlas Elec. Devices
Central Scientific Co.
Eimer & Amend
Federal Prod. Corp.
Ferner Co.
Fuess, Inc.
Gurley, W. & L. E.
Instrument Specialties Co.
Olsen Testing Machine
Perkins & Son
Riehle Div.
Saxl Inst. Co.
Scott Co., Henry L.
Speidel & Co.
Steel City Testing
Taber Instrument Co.
Toledo Scale Co.
Van Keuren Co.
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TESTERS & TESTING MACHINES, Paper Formation
Fuess, Inc.
Paprex Co.
Saxl Inst. Co.
Thwing-Albert Inst. Co.
Williams Apparatus Co.

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American Inst. Co.
Perkins & Son
Ruehfel Co.
Tagliabue Mfg. Co.

TESTERS & TESTING MACHINES, Penetration (Paper)
Saxl Inst. Co.
Testing Machines, Inc.
Thwing-Albert Inst. Co.
Williams Apparatus Co.

TESTERS & TESTING MACHINES, Petroleum (See Oil above)

TESTERS & TESTING MACHINES, Phosphate
Taylor & Co., W. A.

TESTERS & TESTING MACHINES, Pipe & Tube
Baldwin-Southwark Corp.
Black & Decker
Olsen Testing Machine

TESTERS & TESTING MACHINES, Pistol Barrel Optical
Fuess, Inc.
Kollmorgen Optical Co.
Lenox Inst. Co.
Scherr Co., Inc.

TESTERS & TESTING MACHINES, Piston Ring

TESTERS & TESTING MACHINES, Pitch
American Inst. Co.
Precision Scientific Co.

TESTERS & TESTING MACHINES, Plasticity
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Brabender Corp.
Dietert Co.
Eimer & Amend
Olsen Testing Machine
Precision Scientific Co.
Saxl Inst. Co.
Scott Co., Henry L.
Steel City Testing
Testing Machines, Inc.

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Fuess, Inc.
Gurley, W. & L. E.
Ruska & Co., Inc.
Saxl Inst. Co.
Testing Machines, Inc.
Williams Apparatus Co.

TESTERS & TESTING MACHINES, Pulp
Brabender Corp.
Perkins & Son
Testing Machines, Inc.
Williams Apparatus Co.

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Hewlett-Packard
Hickok Electrical Inst.
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Measurements Corp.
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RCA Manufacturing
Shallcross Mfg. Co.
Supreme Instrument Corp.
Triplett Electrical Inst.
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Sperry Products, Inc.

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Gray Instrument Co.
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Million Radio & Tele.
RCA Manufacturing
Rubicon Co.
Shallcross Mfg. Co.
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Triplett Electrical Inst.
Westinghouse Elec. & Mfg.
Weston Electrical Inst.

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Eimer & Amend
Emerson Apparatus Co.
Federal Prod. Corp.
Ferner Co.
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Morehouse Machine Co.
Riehle Div.
Saxl Inst. Co.
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Shore Instrument
Suter, Alfred
Steel City Testing
Van Keuren Co.

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American Instrument Co.
Industrial Filter

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Dietert Co.
Eimer & Amend
Exact Weight Scale Co.
Humboldt Mfg. Co.
Kolesch & Company

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Spencer Lens Co.
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Taber Instrument Co.
Testing Machines, Inc.

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Olsen Testing Machine
Riehle Div.
Saxl Inst. Co.
Suter, Alfred

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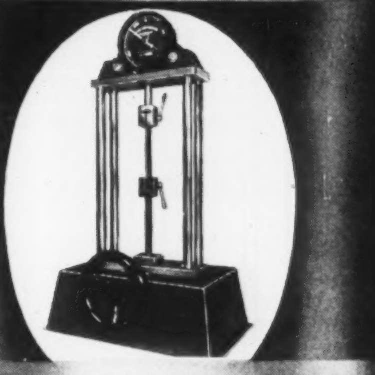
Bock Machine Co.
Detroit Testing Mach.
Krouse Fatigue Machine
Olsen Testing Machine
Riehle Div.
Scott Co., Henry L.
Steel City Testing
Suter, Alfred
Taber Instrument Co.



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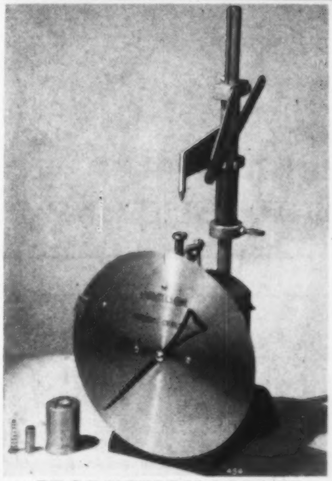

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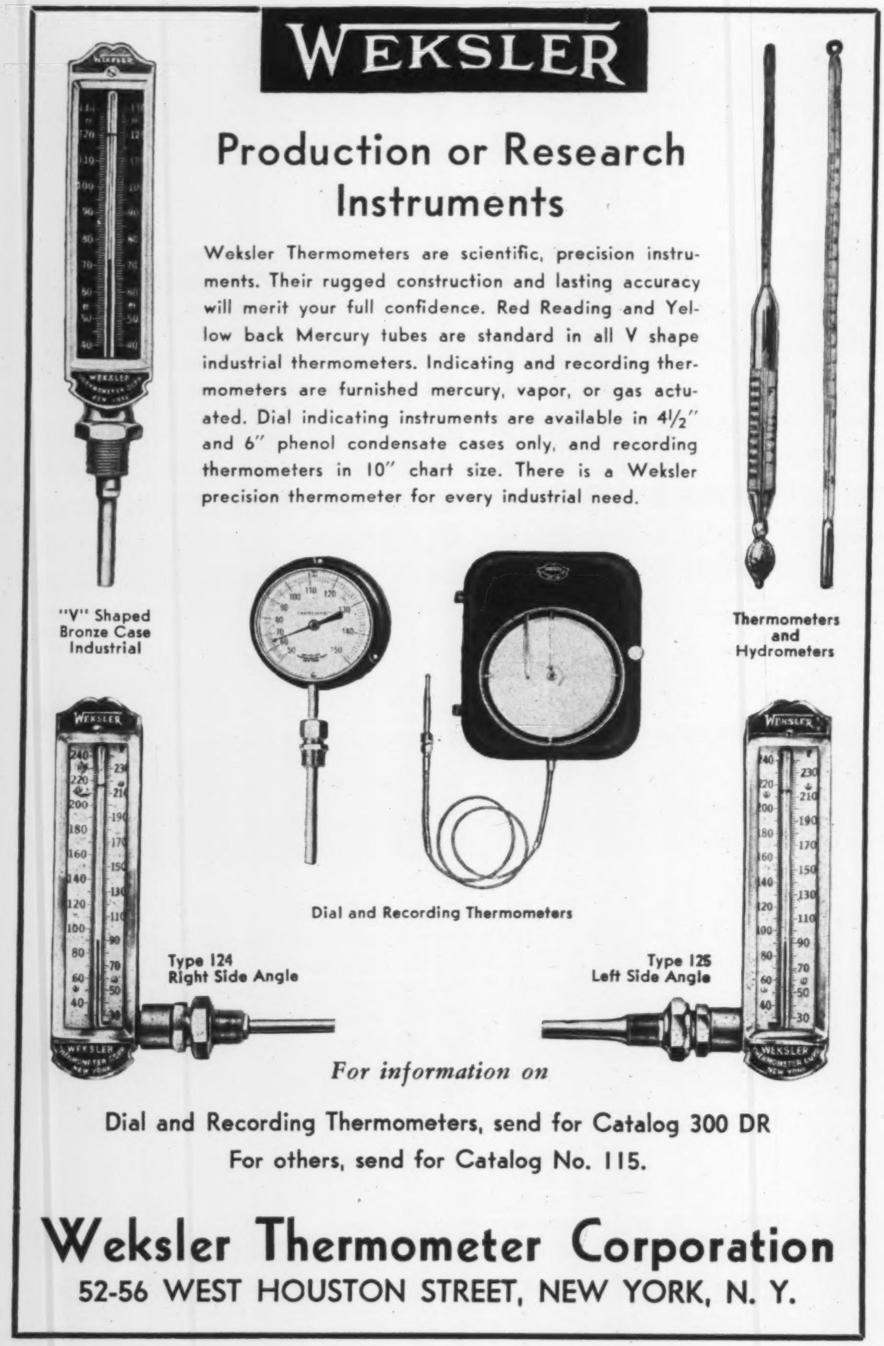
For addresses, see pages I-107—I-118



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- Steel City Testing Lab.
- Suter, Alfred
- Toledo Scale Co.

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- Olsen Testing Machine
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- Taber Instrument Co.
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- Toledo Scale Co.

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- **Instrument Specialties**
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- **Riehle Div.**
- Saxl Inst. Co.
- Suter, Alfred
- Taber Instrument Co.
- **Thwing-Albert Inst. Co.**
- Toledo Scale Co.

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- Akatos, Inc.
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- **Thwing-Albert Inst. Co.**
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- Globe Industries
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- **Pioneer Instrument**
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- **Sticht Co., Inc.**
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- Saxl Inst. Co.

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- Scott Co., Henry L.
- Suter, Alfred
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- Schultheis Corp.
- **Tagliabue Mfg. Co.**
- **Thwing-Albert Inst. Co.**
- **Weksler Thermometer**

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- **Boulin Instrument Corp.**
- Saxl Inst. Co.
- Scott Co., Henry L.
- Suter, Alfred
- **Thwing-Albert Inst. Co.**

TESTERS & TESTING MACHINES, Torsion
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- **Boulin Instrument Corp.**
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- Hathaway Inst. Co.
- Hayes Scientific App.
- Metron Instrument
- Olsen Testing Machine
- **Riehle Div.**
- Saxl Inst. Co.
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- Suter, Alfred
- Testing Machines, Inc.
- Toledo Scale Co.
- **Waugh Laboratories**

TESTERS & TESTING MACHINES, Torsional Creep
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- Suter, Alfred

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- Globe Industries
- **Pioneer Instrument**
- Rieker Instrument Co.
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- **Thwing-Albert Inst. Co.**

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- Atlas Elec. Devices Co.
- **Eimer & Amend**
- **Fish-Schurman Co.**
- Hellige, Inc.
- Taber Instrument Co.
- Thermo-Electric Co.
- Zuhr, Inc., Henry

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- **Brush Development Co.**
- Hathaway Instrument
- **Helland Research**
- **Kurman Electric Co.**
- **RCA Manufacturing**
- **Televiso Products**

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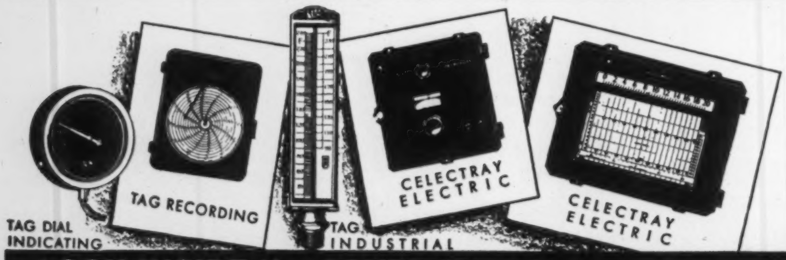
- Clough-Brengle Co.
- General Elec. Co.
- Ideal Commutator
- Norton Electrical Inst.
- **Potter Co.**
- **RCA Manufacturing**
- **Shallcross Mfg. Co.**
- **Weston Elec. Inst. Corp.**



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Sangamo Electric Co.
Standard Elec. Time States Co.
Western Electro-Mech.
Westinghouse Elec. & Mfg.

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Atlas Elec. Devices Co.
Gen. Elec. Lamp. Dept.
National Carbon Co.

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Baldwin-Southwark Corp.
Krouse Fatigue Mach.
Olsen Testing Machine
Riehle Div.
Rubicon Co.
Saxl Inst. Co.
Scott Co., Henry L.
Steel City Testing
Suter, Alfred
Taber Instrument Co.

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Brown Inst. Co.
Emerson Apparatus Co.
Saxl Inst. Co.
Scott Co., Henry L.
Suter, Alfred
Testing Machines, Inc.

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Bausch & Lomb Optical
Fish-Schurman Corp.
Fuess, Inc.
Gaertner Scientific Corp.
Jones & Lamson Machine
Kollmorgen Optical Co.
Leitz, Inc.
Ruska & Co.
Spencer Lens Co.
Woermann-Scnuchhardt

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Olsen Testing Machine
Saxl Inst. Co.

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Olsen Testing Machine
Riehle Div.

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Riehle Div.

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Olsen Testing Machine
Riehle Div.

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Saxl Instrument Co., Inc.
Steel City Testing Lab.
Thwing-Albert Instrument

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Baldwin-Southwark Corp.
Detroit Testing Machine
Dietert Co., Harry W.
Emery Co.
Ferner Co.
Pittsburgh Instrument
Riehle Div.
Saxl Instrument Co.
Steel City Testing Lab.

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Detroit Testing Machine
Riehle Div.
Steel City Testing Lab.

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Baldwin-Southwark Corp.
Riehle Div.

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Amthor Testing Inst. Co.
Dietert Co.
Olsen Testing Machine
Riehle Div.
Saxl Inst. Co.
Scott Co., Henry L.
Steel City Testing
Suter, Alfred

TESTING MACHINES, UNIVERSAL, Pendulum, Capacities 100-5000 lb.
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Dietert Co.
Olsen Testing Machine
Riehle Div.
Scott Co., Henry L.
Steel City Testing
Suter, Alfred
Testing Machines, Inc.

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Olsen Testing Machine
Riehle Div.
Steel City Testing
Suter, Alfred

TESTING MACHINES, UNIVERSAL, Pendulum, Capacities over 100,000 lb.
Olsen Testing Machine
Riehle Div.
Steel City Testing
Suter, Alfred

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Chatillon & Sons
Saxl Inst. Co.
Scott Co., Henry L.
Toledo Scale Co.

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Dillon & Co.
Dietert Co.
Dorr-Patterson Eng.
Scott Co., Henry L.
Toledo Scale Co.

TESTING MACHINES, UNIVERSAL, Spring Dynamometers, Capacities 5000-100,000 lb.
Baldwin-Southwark Corp.
Riehle Div.
Scott Co., Henry L.
Toledo Scale Co.

TESTING MACHINES, UNIVERSAL, Spring Dynamometer, Capacities over 100,000 lb.
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Toledo Scale Co.

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Waugh Laboratories

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American Transformer
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Dayton Acme Co.
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General Elec. Co.
(Cont'd)

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Meter Devices Co.
RCA Manufacturing Co.
Roller-Smith Co.
Rubicon Co.
Shallcross Mfg. Co.
Sticht Co., Inc.
Superior Electric Co.
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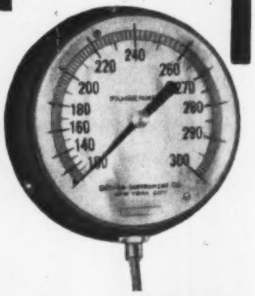

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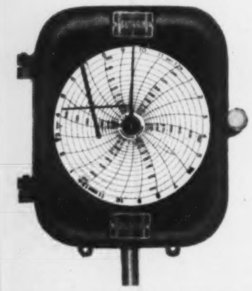

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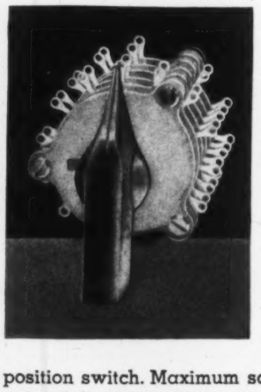

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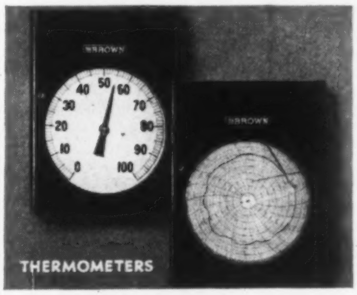

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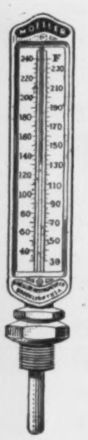

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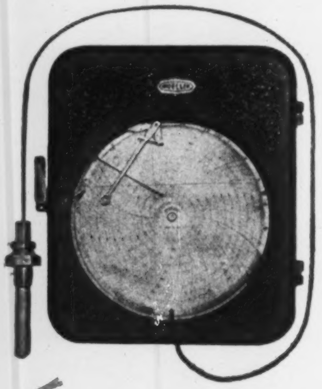

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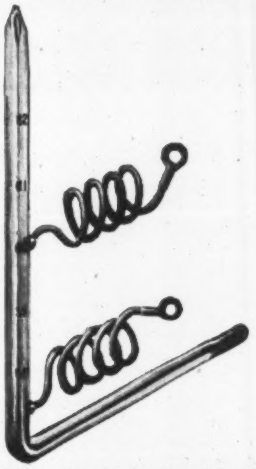

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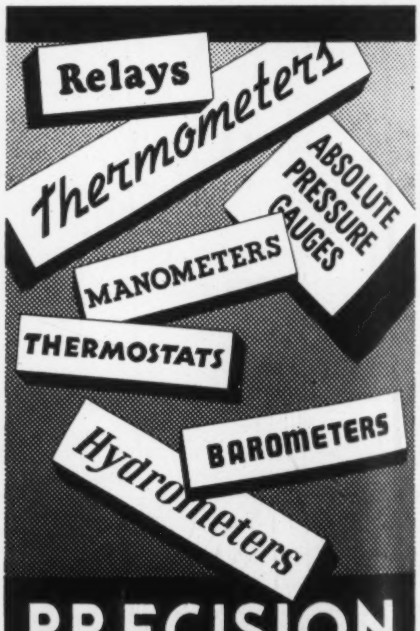

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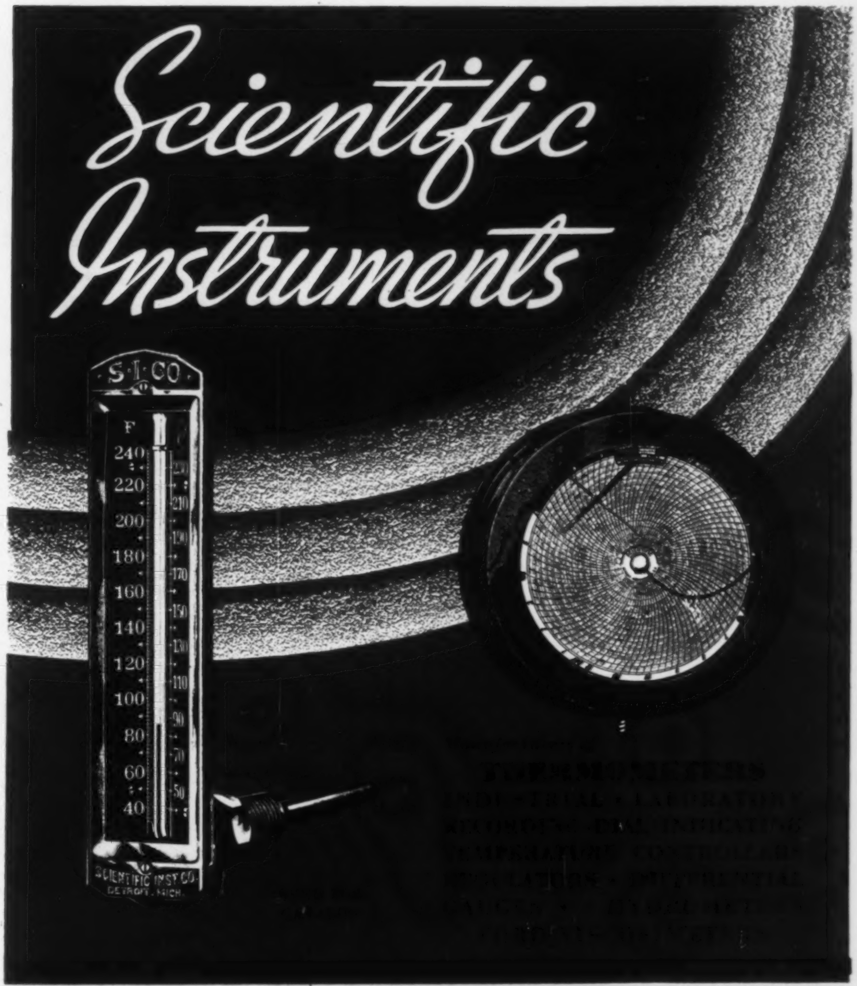

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- Perfex Corp.
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- Stromberg Electric Co.
- **Thompson Clock Co.**
- **United Cellophone Corp.**
- Walser Automatic Timer
- Warren Telechron Co.
- Westinghouse Elec. & Mfg.
- Zenith Electric Co.

TIME METERS (See meters, time)

TIME OPERATION, Recorders
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- Automatic Time Stamp
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TIME SWITCHES (See Switches, Time)

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Automatic Elec. Co.
Automatic Elec. Mfg.
Automatic Temp. Control
Betts & Betts
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Eagle Signal Corp.
Edison, Instrument Div.
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Mason-Neilan Regulator
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Production Inst. Co.
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TIMERS, AUTOMATIC, Automatic Reset (Cont'd)
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Tagliabue Mfg. Co.
Taylor Inst. Cos.
Zenith Electric Co.

TIMERS, AUTOMATIC, Cycle
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Am. Gas Accumulator
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Thompson Clock Co.
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Wheelco Inst. Co.
Zenith Electric Co.

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Am. Gas Accumulator
Am. Timer Corp.
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Automatic Elec. Mfg.
Automatic Temp. Control
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Automatic Temp. Control
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Mason-Neilan Regulator
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Tagliabue Mfg. Co.
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General Elec. Co.
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Miller Co., Bertrand F.
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Roller-Smith Co.
Sangamo Electric Co.
Thordarson Elec. Co.
United Transformer Corp.
West, Electro-Mechanical
Westinghouse Elec. & Mfg.
Weston Elec. Inst. Corp.

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Campbell Electric
Dongan Electric Mfg.
Nothelfer Winding Labs.

TRANSFORMERS, Laboratory
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Burrell Tech. Supply
Central Scientific Co.
Clough-Brengle Co.
Daven Co.
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Miller Co., Bertrand F.
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Dongan Electric Mfg.
Eastern Specialty Co.
New York Transformer
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Thordarson Mfg. Co.
United Transformer Corp.
Westinghouse Elec. & Mfg.

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Corning Glass Works
General Electric X-Ray
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Kelley-Koett Mfg.
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Defender Automatic Reg.
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Moeller Inst. Co.
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Precision Term. & Inst.
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Bristol Co.
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Moeller Instrument Co.
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Potter Co.
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VACUUM TUBES (See Tubes, Vacuum)

VACUUM TUBE BRIDGES (See Bridges, Vacuum Tube)

VACUUM TUBE RELAYS (See Relays, Vacuum Tube)

VACUUM TUBE VOLTMETERS (See Voltmeters, Vacuum Tube)

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VALVE OPERATING DEVICES, Electric Solenoid (See Valves, Solenoid)

VALVE OPERATING DEVICES, Hydraulic (See Valves, Hydraulically Operated)

VALVE-OPERATING DEVICES, Pneumatic (See Valves, Diaphragm)

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- **Payne Furnace & Supply**
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- **Tagliabue Mfg. Co.**
- **Wheelco Instruments**
- Wilgus Mfg. Co.

VALVES, Automatic Solenoid (See Valves, Solenoid)

VALVES, Balanced
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- Atlas Valve Co.
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VALVES, Balanced (Cont'd)
Bristol Co.
Cash Co.
Cochrane Corp.
Connelly Iron Sponge
Davis Reg. Co.
Defender Automatic Reg.
D'Este Co.
Fisher Governor Co.
Ford Reg. Valve Co.
Foster Engg. Co.
General Controls Co.
Hanlon-Waters, Inc.
Illinois Eng. Co.
Jenkins Bros.
Kiely & Mueller
Klipfel Mfg. Co.
Mason-Neilan Regulator
McAlear Mfg. Co.
Minneapolis-Honeywell
Natural Gas Equipment
Northern Equip. Co.
Powers Regulator Co.
Republic Flow Meters
Reynolds Gas Regulator
Ruggles-Klingemann
Schade Valve Mfg. Co.
Seely Instrument Co.
Spence Engineering Co.
Tagliabue Mfg. Co.
Watts Regulator Co.
Wilgus Manufacturing

VALVES, Constant Pressure
Bailey Meter Co.
Belfield Co.
Cash Co.
Connelly Iron Sponge
Davis Reg. Co.
D'Este Co.
Fisher Governor Co.
Foster Engg. Co.
Hanlon-Waters, Inc.
Hoke, Inc.
Jenkins Bros.
Klipfel Mfg. Co.
Mason-Neilan Regulator
McAlear Mfg. Co.
Northern Equipment
Powers Regulator Co.
Refrigerating Spec. Co.
Reynolds Gas Regulator
Ruggles-Klingemann
Schade Valve Mfg. Co.
Spence Engineering Co.
Tagliabue Mfg. Co.
Vaughn-G E. Witt Co
Wilgus Manufacturing

VALVES, Diaphragm
Askania Regulator Co.
Atlas Valve Co.
Bailey Meter Co.
Bastian-Blessing Co.
Belfield Co.
Boylston Co.
Bristol Co.
Brown Inst. Co.
Cash Co.
Connelly Iron Sponge
Davis Reg. Co.
Defender Automatic Reg
D'Este Co.
Fisher Governor
Foster Engg. Co.
Foxboro Co.
General Controls Co.
Hanlon-Waters, Inc.
Illinois Eng. Co.
Johnson Service Co.
Kiely & Mueller
Klipfel Mfg. Co.
Leslie Co.
Manning, Maxwell & Moore
Mason-Neilan Regulator
McAlear Mfg. Co.
McCorkle Co.
Minneapolis-Honeywell
National Airoil Burner
Natural Gas Equipment
Partlow Corp.
Payne Furnace & Supply
Powers Regulator Co.
Refrigerating Spec. Co.
Republic Flow Meters Co.
Reynolds Gas Regulator
Ruggles-Klingemann
Schade Valve Mfg. Co.
Scientific Instrument Co.
Seely Instrument Co.
Spence Engineering Co.
Spencer Thermostat Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Vaughn-G E. Witt
White-Rodgers Electric
Wilgus Manufacturing

VALVES, Electrically Operated
Atlas Valve Co.
Automatic Products Co.
Automatic Switch Co.
Automatic Temp. Control
Baldwin Southwark
Barber Coleman
Cutler-Hammer, Inc.
Davis Reg. Co.
Bristol Co.
Brown Inst. Co.
Cochrane Corp.
Defender Automatic Reg.
Electric Valve Mfg.
Electrimatic Corp.
Foster Engg. Co.
Foxboro Co.
Frick Co.
Friez & Sons
General Controls Co.
Hannifin Mfg. Co.
Hunt & Son
Illinois Eng. Co.
Jenkins Bros.
Kiely & Mueller
Klipfel Mfg. Co.
Leslie Co.
Magnatrol Valve Corp.
Manning, Maxwell & Moore
Mason-Neilan Regulator
McAlear Mfg. Co.
McCorkle Co.
McDonnell & Miller
Merco Nordstrom Valve
Minneapolis-Honeywell
Northern Equipment Co.
Payne Furnace & Supply
Penn Electric Switch
Perfex Corp.
Refrigerating Spec. Co.
Ruggles-Klingemann
Schade Valve Mfg. Co.
Shallcross Mfg. Co.
Spence Engineering Co.
Supreme Elec. Prods.
Tagliabue Mfg. Co.
Wheelco Instruments
White-Rodgers Elec. Co.

VALVES, Hydraulically Operated
Arca Regulators, Inc.
Askania Regulator
Atlas Valve Co.
Auto. Temp. Control
Bailey Meter
Baldwin Southwark
Barber-Coleman Co.
Cash Co.
Controls, Inc.
Defender Automatic Reg.
Fisher Governor
Foster Engg. Co.
Gen. Electric Co.
Hays Corp.
Hydraulic Controls, Inc.
Jenkins Bros.
Kiely & Mueller
Leslie Co.
Mason-Neilan Regulator
McAlear Mfg. Co.
Merco Nordstrom Valve
Powers Regulator Co.
Republic Flow Meter
Ruggles-Klingemann
Schade Valve Mfg. Co.
Spence Engineering Co.
Sterling Eng. Co.

VALVES, Lubricated Plug
Merco Nordstrom Valve

VALVES, Motor Operated (See Valves, Diaphragm; Valves, Electrically-operated; Valves, Hydraulically-operated; Valves, Solenoid)

VALVES, Pressure Relief, Reducing, etc.
Abercrombie Pump Co.
American Meter Co.
Ashton Valve Co.
Atlas Valve Co.
Bailey Meter Co.
Bastian-Blessing Co.
Belfield Co.
Boylston Co.
Bristol Co.
Brown Instr. Co.
Cash Co.
Cochrane Corp.
Connelly Iron Sponge
Crosby Steam Gage Co.
Davis Reg. Co.
D'Este Co.
Fisher Governor Co.
Foster Engg. Co.
Foxboro Co.
Fulton Sylphon Co.
Hagan Corp.
Hanlon-Waters, Inc.
Hoke, Inc.
Illinois Eng. Co.
Kenyon Instrument Co.
Kiely & Mueller
Klipfel Mfg. Co.
Lammert & Mann Co.
Leslie Co.
Manning, Maxwell & Moore
Marsh Corp., Jas. P.
Mason-Neilan Regulator
McAlear Mfg. Co.
Minneapolis-Honeywell
Natural Gas Equipment
Northern Equipment
Powers Regulator Co.
Republic Flow Meters
Ruggles-Klingemann
Schade Valve Mfg. Co.
Seely Instrument Co.
Spence Engineering Co.
Spencer Thermostat Co.
Star Brass Mfg. Co.
Tagliabue Mfg. Co.
Taylor Instr. Cos.
Vapor Recovery Systems
Vaughn-G. E. Witt Co.
Victor Equipment Co.
Watts Regulator Co.
Wilgus Manufacturing

VALVES, Proportional Air-Gas
American Meter Co.
Barber-Colman
Bristol Co.
Brown Inst. Co.
Cash Co.
Connelly Iron Sponge
Fisher Governor Co.
Hanlon-Waters, Inc.
Lammert & Mann Co.
Mason-Neilan Regulator
McAlear Mfg. Co.
Tagliabue Mfg. Co.

VALVES, Regulating
Am. Gas Furnace Co.
American Meter Co.
Arco Regulators, Inc.
Atlas Valve Co.
Automatic Valve Control
Bailey Meter Co.
Barber Coleman
Bastian-Blessing Co.
Belfield Co.
Boylston Co.
Boiler Room Equipment
Bristol Co.
Brown Inst. Co.
Cash Co.
Cochrane Corp.
Connelly Iron Sponge
Davis Reg. Co.
Defender Automatic Reg.
D'Este Co.
Electromatic Corp.
Fisher Governor Co.
Ford Reg. Valve Co.
Foster Engg. Co.
Foxboro Co.
Friez & Sons
Fulton Sylphon Co.
General Controls Co.
Hagan Corp.
Hanlon-Waters, Inc.
Hannifin Mfg. Co.
Illinois Eng. Co.
Jenkins Bros.
Kiely & Mueller
Klipfel Mfg. Co.
Lammert & Mann Co.
Leslie Co.
Manning, Maxwell & Moore
Mason-Neilan Regulator
McAlear Mfg. Co.
Merco Nordstrom Valve
Minneapolis-Honeywell
National Airoil Burner
Natural Gas Equipment
Northern Equipment Co.
Partlow Co.
Parr Inst. Co.
Powers Regulator Co.
Republic Flow Meters
Robertshaw Thermostat
Ruggles-Klingemann
Schade Valve Mfg. Co.
Spence Engineering Co.
Tagliabue Mfg. Co.
Taylor Inst. Cos.
Vaughn-G. E. Witt
Victor Equipment Co.
Wheelco Instruments
Wilgus Manufacturing

VALVES, Safety Fuel Shut-off
American Meter Co.
Askania Regulator Co.
Atlas Valve Co.
Automatic Products Co.
Automatic Switch Co.
Bastian-Blessing
Bristol Co.
Brown Inst. Co.
Cash Co.
Davis Reg. Co.
D'Este Co.
Eclipse Fuel Engg. Co.
Fisher Governor
Friez & Sons
Fulton Sylphon Co.
General Combustion Corp.
General Controls Co.
Hanlon-Waters, Inc.
Manning, Maxwell & Moore
Mason-Neilan Regulator
McAlear Mfg. Co.
McDonnell & Miller
Milwaukee Gas Specialty
Minneapolis-Honeywell
National Airoil Burner
Natural Gas Equipment
Partlow Corp.
Payne Furnace & Supply
Penn Electric Switch
Preferred Utilities Mfg.
Ruggles-Klingemann
Spence Engineering Co.
Spencer Thermostat Co.
Tagliabue Mfg. Co.
Viking Instrument Co.
Wheelco Instruments
Wilgus Manufacturing

VALVES, Solenoid
Atlas Valve Co.
Automatic Products Co.
Automatic Switch Co.
Barber-Coleman Co.
Brown Inst. Co.
Cutler-Hammer, Inc.
Davis Reg. Co.
Electric Valve Mfg. Co.
Electrimatic Corp.
Foxboro Co.
Frick Co.
Friez & Sons
General Controls Co.
Gen. Elec. Co.
General Sales & Prod.
Guardian Elec. Mfg.
Hannifin Mfg. Co.
Hays Corp.
Hunt & Co.
Leslie Co.
Magnatrol Valve Corp.
McDonnell & Miller
Minneapolis-Honeywell
Nortnern Equip. Co.
Partlow Corp.
Penn Electric Switch
Perfex Corp.
Refrigerating Spec. Co.
Ruggles-Klingemann
Schade Valve Mfg. Co.
Spence Engineering Co.
Sterling Eng. Co.
Supreme Elec. Prods.
Tagliabue Mfg. Co.
Wheelco Instruments

VALVES, Thermostat (See Thermostats)

VAR METERS, See Volt-ampere Meters, Reactive

VEHICLE TRAVEL RECORDERS
Commercial Engg. Labs.
Cramer & Co.
Elec. Tachometer Corp.
Knopf, Paul
Ohmer Register Co.
Pittsburgh Taximeter Co.
Service Recorder Co.

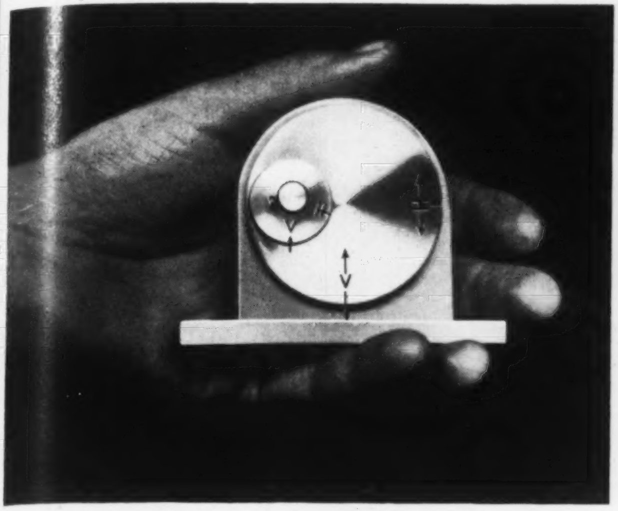
VENTURI METERS (See Flowmeters, Venturi)

VENTURI TUBES (See Flowmeters, Venturi)

VIBRATION PICKUPS
Amperite Co.
Brush Development Co.
Consolidated Engg.
Heiland Research
Miller Corp., Wm.
Western Electric

VIBROGRAPHS
Baldwin-Southwark Corp.
Cambridge Inst. Co.
Central Scientific Co.
Chicago Apparatus Co.
Commercial Engg. Labs.
Consolidated Engg.
Heiland Research
Impact Register Co.
RCA Manufacturing Co.
Ruska & Co.
Waugh Laboratories

VIBROMETERS
American Inst. Co.
Ballantine Labs.
Consolidated Engg.
Electrocon Corp.
Hathaway Instrument
Heiland Research
Miller Corp., Wm.
Potter Co.
Suter, Alfred
Televiso Co.
Western Electric



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(See Needles, Vicat)

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Brabender Corp.
Central Scientific Co.
Fish-Schurman Corp.
Fisher Scientific Co.
Precision Scientific Co.
Ruska & Co., Inc.
Sargent & Co., E. H.
Scientific Glass App.
Tagliabue Mfg. Co., C. J.
Thomas Co., Arthur H.

VISCOSIMETERS, Brookfield
Brookfield Eng. Labs.

VISCOSIMETERS, Engler
American Inst. Co.
Boekel & Co.
Central Scientific Co.
Humboldt Mfg. Co.
Kimble Glass
Precision Scientific Co.
Ruehfel Co.

VISCOSIMETERS, Fenske
American Inst. Co.
Kimble Glass
Tagliabue Mfg. Co.

VISCOSIMETERS Ford (For Paint)
Central Scientific Co.
Eimer & Amend
Scientific Inst. Co.

VISCOSIMETERS, Hoeppler
Central Scientific Co.
Fish-Schurman Co.
Sargent & Co.

VISCOSIMETERS, Kinematic
Braun Corp.
Eimer & Amend
Precision Scientific Co.
Tagliabue Mfg. Co.

VISCOSIMETERS, MacMichael
Eimer & Amend

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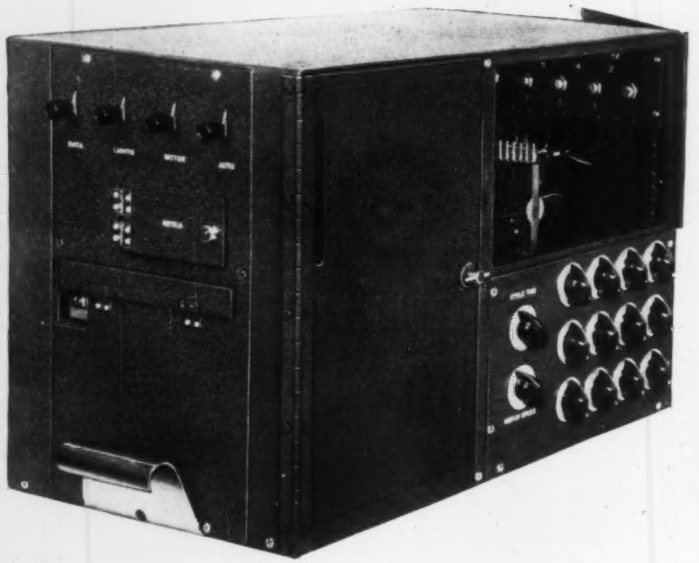

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For Strain and Vibration Recording with

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- Electromagnetic 100 cycle timer.
- Simultaneous visual observation and recording.
- Automatic record of time and record number.
- Footage counter.
- Adjustable preset of record length.
- Provision for notes on back of record.
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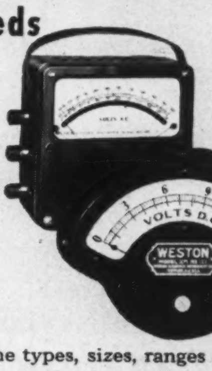
—and instruments for all electrical measurement needs



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Instruments

VISCOSIMETERS, Saybolt
- **American Inst. Co.**
- Boekel & Co.
- Central Scientific Co.
- Corning Glass Works
- Humboldt Mfg. Co.
- **Kimble Glass Co.**
- Monarch Mfg. Wks.
- **Precision Scientific Co.**
- **Ruehfel Co.**
- **Tagliabue Mfg. Co.**
- Zuhr, Inc., Henry

VISCOSIMETERS, Scott
- Boekel & Co.
- Central Scientific Co.
- **Precision Scientific Co.**
- **Ruehfel Co.**
- **Sargent & Co.**

VISCOSIMETERS, Stormer
- Central Scientific Co.
- Industro-Scientific Co.
- **Thomas Co., Arthur H.**

VISCOSIMETERS, Ubbelohde
- **American Inst. Co.**
- Central Scientific Co.
- **Fish-Schurman Co.**
- **Precision Scientific Co.**
- **Sargent & Co.**
- **Tagliabue Mfg. Co.**

VISCOSIMETERS, Zahn
- General Elec. Co.

VISCOSITY REGULATORS (See Controllers,

VISCOSITY GAGES
- **Visco-Meter Corp.**

VISCOSITY TUBES
- Cargille, R. P.
- Fischer & Porter
- Fish-Schurman

VOLTAGE ADJUSTERS, AUTOMATIC
- Amplifier Co.
- Automatic, Viscosity)
- General Elec. Co.
- Ideal Commutator Dresser
- **Sola Electric Co.**
- United Transformer Corp.

VOLTAGE DETECTORS (See Detectors, Voltage)

VOLTAGE DIVIDERS, Radio Frequency (See Dividers, Voltage)

VOLTAGE, HIGH (above 2300 volts) Indicators
- General Elec. Co.
- General Physical Lab.
- Ideal Commutator Dresser
- **Rawson Electrical Inst.**
- **Roller-Smith Co.**
- Sensitive Research Inst.
- **Shallcross Mfg .Co.**
- **Triplett Electrical Inst.**
- **Weston Elec. Inst. Corp.**

VOLTAGE, HIGH (above 2300 volts) Measuring Devices
- Associated Research
- General Elec. Co.
- **International Resistance**

(Cont'd)

VOLTAGE, HIGH, Measuring Devices (Cont'd)
- **Roller-Smith Co.**
- Sensitive Research Inst.
- **Shallcross Mfg.**
- Westinghouse Elec. & Mfg.
- Westinghouse X-Ray Co.
- **Weston Elec. Inst. Corp.**

VOLTAGE, HIGH (above 2300 volts) Testing Devices
- **American Transformer**
- Associated Research
- General Elec. Co.
- Ideal Commutator Dresser
- **International Resistance**
- Miller Co., Bertrand F.
- **Raytheon Mfg. Co.**
- **Roller-Smith Co.**
- **Schweitzer & Conrad**
- States Co.
- **Superior Elec. Co.**
- **United Transformer Corp.**
- **Weston Elec. Inst. Corp.**

VOLTAGE REGULATORS (See Regulators, Automatic, Voltage)

VOLT-AMMETERS
- **Am. Elec. Sales Co.**
- Clough-Brengle Co.
- Dayton Acme Co.
- **De Jur-Amsco Corp.**
- Esterline-Angus Co.
- General Elec. Co.
- **Hickok Elec. Inst. Co.**

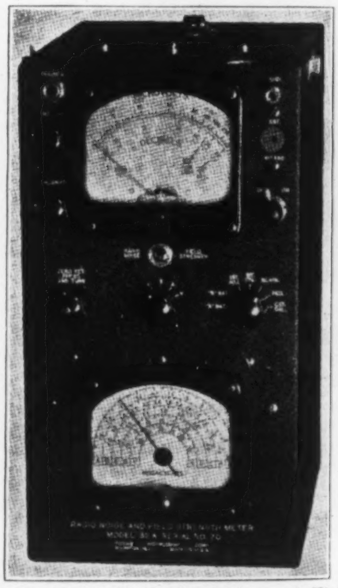
(Cont'd)

VOLT-AMMETERS (Cont'd)
- Knickerbocker Dev.
- **RCA Manufacturing Co.**
- **Rawson Electrical Inst.**
- Reliance Instrument Co.
- **Roller-Smith Co.**
- Sensitive Research Inst.
- Supreme Instruments
- Therm-Electric Meters Co.
- **Triplett Electrical Inst.**
- **Welch Mfg. Co.**
- Westinghouse Elec. & Mfg.
- **Weston Elec. Inst. Corp.**

VOLT-AMPERE-HOUR METERS
- Ferranti Electric, Inc.
- **General Electric Co.**

VOLT-AMPERE METERS, REACTIVE
- **Esterline-Angus Co.**
- **Landis & Gyr, Inc.**
- **Weston Elec. Inst.**

VOLTMETERS, Contact Making
- Burton-Rogers Co.
- **De Jur-Amsco**
- Electronic Laboratory
- **Electric Tachometer Corp.**
- Engineering Labs., Inc.
- Esterline-Angus Co.
- Ferranti Electric, Inc.
- **General Electric Co.**
- **Geophysical Instrument Co.**
- **Hickok Electrical Inst.**
- Reliance Instrument Co.
- **Roller-Smith Co.**
- **Weston Electrical Inst.**



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VOLTMETERS, Electrostatic
- **Cambridge Inst. Co.**
- Ferranti Electric, Inc.
- **General Elec. Co.**
- Hathaway Inst. Co.
- **Rawson Electrical Inst.**

VOLTMETERS, Indicating
- Ballantine Labs.
- Burton-Rogers Co.
- Clough-Brengle Co.
- Columbia Elec. Mfg.
- Dayton Acme Co.
- **De Jur-Amsco Corp.**
- Ferranti Electric, Inc.
- **General Elec. Co.**
- **Hickok Elec. Inst. Co.**
- **J-B-T Insts.**
- Knickerbocker Dev.
- **Niagara Electrical Inst.**
- Norton Electrical Inst.
- Precision Apparatus Corp.
- Radio City Products Co.
- **Rawson Electrical Inst.**
- **RCA Manufacturing Co.**
- **Roller-Smith Co.**
- Sensitive Research Inst.
- Simpson Elec. Co.
- Triumph Mfg. Co.
- **Welch Mfg. Co.**
- Westinghouse Elec. & Mfg.
- **Weston Elec. Inst Corp.**
- **Winslow Co.**

VOLTMETERS, Megohm
- Associated Research
- Jackson Electrical Inst.
- **Rawson Electrical Inst.**
- **RCA Manufacturing Co.**
- Sensitive Research Inst.
- **Shallcross Mfg. Co.**
- **Sticht Co., Inc.**
- **Televiso Co.**
- **Welch Mfg. Co.**
- **Weston Elec. Inst. Corp.**

VOLTMETERS, Micro
- **Cambridge Inst. Co.**
- **De Jur-Amsco Corp.**
- **Hickok Elec. Inst. Co.**
- Knickerbocker Dev.
- Microvolts, Inc.
- **Rawson Electrical Inst.**
- Sensitive Research Inst.
- Supreme Instruments
- **Televiso Co.**
- **Triplett Electrical Inst.**
- **Weston Elec. Inst. Corp.**
- **Wheelco Inst. Co.**

VOLTMETERS, Micro, Radio Frequency
- **Ferris Inst. Corp.**

VOLTMETERS, Millivoltmeters
- Ballantine Labs.
- **Bristol Co.**
- Burton-Rogers Co.
- **Cambridge Inst. Co.**
- Dayton Acme Co.
- **De Jur-Amsco Corp.**
- **Engelhard, Chas.**
- Esterline-Angus Co.
- Etna Elec. Works
- **General Elec. Co.**
- **Hickok Elec. Inst. Co.**
- **J-B-T Insts.**
- Knickerbocker Dev.
- Radio City Products Co.
- **Rawson Electrical Inst.**
- **RCA Manufacturing**
- **Roller-Smith Co.**
- Sensitive Research Inst.
- **Shallcross Mfg. Co.**
- Simpson Elec. Co.
- **Thwing-Albert Inst. Co.**
- **Triplett Electrical Inst.**
- **Welch Mfg. Co.**
- Westinghouse Elec. & Mfg.
- **Weston Elec. Inst. Corp.**
- **Wheelco Inst. Co.**

VOLTMETERS, Oxide Rectifier
- Clough-Brengle Co.
- **De Jur-Amsco Corp.**
- **General Elec. Co.**
- **General Radio Co.**
- **Hickok Elec. Inst. Co.**
- Radio City Products Co.
- **Roller-Smith Co.**
- Simpson Elec. Co.
- Supreme Instruments.
- **Triplett Electrical Inst.**
- Triumph Mfg. Co.
- Westinghouse Elec. & Mfg.
- **Weston Elec. Inst. Corp.**

VOLTMETERS, Peak
- Clough-Brengle Co.
- **General Elec. Co.**
- **Hickok Elec. Inst. Co.**
- **RCA Manufacturing Co.**
- Sensitive Research Inst.

VOLTMETERS, Recording
- **Bristol Co.**
- **Cambridge Inst. Co.**
- **Engelhard, Chas.**
- Esterline-Angus Co.
- **General Elec. Co.**
- **Leeds & Northrup Co.**
- **Roller-Smith Co.**
- Westinghouse Elec. & Mfg.

VOLTMETERS, Thermionic Rectifier
- Andrew, Victor J.
- **Cambridge Inst. Co.**
- **General Radio Co.**
- **Measurements Corp.**

VOLTMETERS, Thermo
- **Am. Elec. Sales Co.**
- **Anderson Co.**
- **Cambridge Inst. Co.**
- **De Jur-Amsco Corp.**
- Etna Elec. Works
- **General Elec. Co.**
- **Hickok Elec. Inst. Co.**
- **Rawson Electrical Inst.**
- Sensitive Research Inst.
- **Triplett Electrical Inst.**
- Westinghouse Elec. & Mfg.
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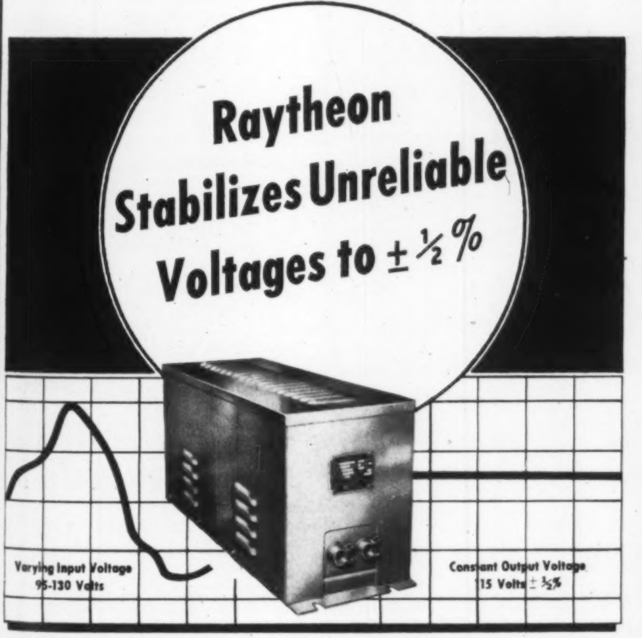

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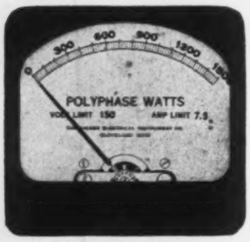

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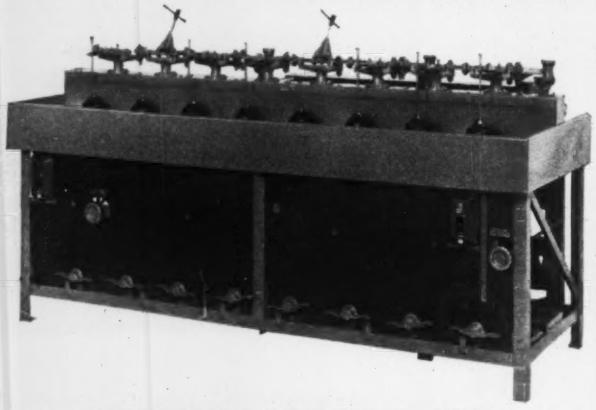

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Bowser & Co., Inc., S. F., 1302 E. Creighton Ave., Fort Wayne, Ind.
Liquid meters

Boyer-Campbell Co., 6540 Antoine St., Detroit, Mich.
Magnifiers

Boylston Steam Specialty Co., 116 W. Illinois St., Chicago, Ill.
Regulating valves

Brabender Corp., Rochelle Park, N. J.
Industrial measuring & control apparatus for plastic & viscous materials; semi-automatic moisture testers

Bradley Laboratories, Inc., 82 Meadow St., New Haven, Conn.
Photoelectric cells

Braun Corp., 2260 East 15th St., Los Angeles, Calif.
Chemicals & laboratory supplies

Braun-Knecht-Heimann Co., 576 Mission St., San Francisco, Calif.
Laboratory supplies

Breeze Corporation, 41 South 6 St., Newark

Bristol Company, Waterbury, Conn.
Recording & automatic controlling instruments for pressure, vacuum, draft, absolute pressure, humidity, liquid level, flow, pH value, temperature (pyrometers & thermometers) & speed. Included are recording barometers, voltmeters, ammeters, wattmeters, dairy instruments, machine operation, motion & operation recorders, control valves, telemetering instruments, process cycle controllers, coordinated process control, time-temperature & time-pressure controllers, potentiometers, air operated & electric controllers & thermal converters. Variations & combinations of these instruments are offered for applications in the various industries & processes

Brodie Co., Inc., Ralph N., 61st & Lowell Sts., Oakland, Calif.
Positive displacement petroleum meters & accessories

Brooke Engineering Co., Inc., 4517 Wayne Ave., Philadelphia, Pa.
Electrically actuated pressure & flow controllers

Brookfield Engineering Laboratories, Sharon, Mass.
Synchro-lectric viscosimeter

Brooklyn Thermometer Co., Meriden, Conn.
Thermometers & hydrometers

Brown Gravity Meter Corp., P. O. Box 6005, Houston, Tex.
Instruments for measuring earth's gravitational field

Brown Instrument Company, 4482 Wayne Ave., Philadelphia, Pa.
Thermocouple & optical pyrometers, resistance thermometers, pressure thermometers, pressure gages, flow meters, liquid level gages, hygrometers, CO_2 meters, control systems; electric, air-operated & combined electric & air-operated; combustion safety controls, moisture content recorder & controller & furnace atmosphere recorder

Brown & Sharpe Mfg. Co., Providence, R. I.
Machine shop instruments

CAMBRIDGE INSTRUMENTS
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VIBROGRAPHS, FLUXMETERS, GEOPHYSICAL SEISMOGRAPHS, AERO MIXTURE INDICATORS, EXHAUST GAS TESTERS, ELECTROMETERS, GALVANOMETERS, ELECTROCARDIOGRAPHS, GAS ANALYSIS EQUIPMENT, and many other MECHANICAL AND ELECTRICAL INSTRUMENTS OF PRECISION for use in science, medicine and industry.

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CAMBRIDGE INSTRUMENT CO., INC.

3732 GRAND CENTRAL TERMINAL
NEW YORK, N. Y.

Brush Development Co., 3331 Perkins Ave., Cleveland, Ohio
Piezoelectric instruments including laboratory microphones, vibration & fluid pulsation pickups, galvanometers, pen oscillographs, surface finish testers, artificial ears, headphones, phonograph pickups & cutters

Buehler, Adolph I., 228 N. La Salle St. & Wacker Dr., Chicago, Ill.
Metallographic laboratory apparatus

Buffalo Apparatus Corp., 180 Main St., Buffalo, N. Y.
Laboratory supplies

Buffalo Meter Co., 2917 Main St., Buffalo, N. Y.
Liquid meters for measurement of cold water, hot water, oils, chemicals. Integrating registers, cumulative, setback, or predetermined control.

Buffalo Scale Co., 1200 Niagara St., Buffalo, N. Y.
Scales

Buhl Optical Co., 420 Blvd. of Allies, Pittsburgh, Pa.
Optical instruments, magnifiers, reflectors, telescopes

Builders-Providence, Inc., 9 Codding St., Providence, R. I.
Instruments for indicating, recording, controlling flow, liquid level, pressure, temperature, and weight

Bullard Co., E. D., 275 Eighth St., San Francisco, Calif.
Gas leak detectors

Bunnell & Company, J. H., 215 Fulton St., New York, N. Y.
Relays & switches

Burgess Battery Co., 500 W. Huron St., Chicago, Ill.
Dry batteries

Burke, Louis, 41 John St., New York, N. Y.
Stop watches and chronometers

Burling Instrument Co., 251-253 Springfield Ave., Newark, N. J.
Temperature controls for laboratories, Industrial processes, furnaces & ovens. (-100° to 1400°F.)
Standard tubes or special alloys & ranges.

Burlington Instrument Corp., Burlington, Iowa
Electrical control apparatus

Burrell Technical Supply Co., 1942 Fifth Ave., Pittsburgh, Pa.
Scientific instruments & laboratory supplies

Burt Scientific Labs., R. C., 1212 E. Green St., Pasadena, Calif.
Special instruments

Burton Mfg. Co., 3853 N. Lincoln St., Chicago, Ill.
Microscopic accessories & bank & turn indicators

Burton-Rogers Co., 857 Boylston St., Boston, Mass.
Electrical instruments

Bushnell and Nevius, 913 N. LaCienega Blvd., Los Angeles, Calif.
Control apparatus

C

Calculagraph Co., 50 Church St., New York, N. Y.
Elapsed time indicator

Calibron Products, Inc., 51 Lakeside Ave., West Orange, N. J.
Special apparatus

Calkins Co., 934 S. Main St., Los Angeles, Calif.
Laboratory supply house

Callahan & Co., E. J., 14 W. Barre St., Baltimore, Md.
Laboratory supply house

Calta Glass Wks., 2158 Ogden Ave., Chicago, Ill.

Cambosco Scientific Co., Waverley, Mass.

Cambridge Instrument Co., Inc., Grand Central Terminal, New York, N. Y.
Scientific & industrial instruments

Cameron Surgical Specialty Co., 666 W. Division St., Chicago, Ill.

Campbell Electric Co., Lynn, Mass.
Transformers, high frequency & X-ray equipment

Canadian Radium & Uranium Corp., 630 Fifth Ave., New York, N. Y.
Luminous, phosphorescent and fluorescent paints

Cannon Electric Development Co., Los Angeles, Calif.
Multiple circuit connectors for instruments

Cardwell Mfg. Corp., Allen D., 81 Prospect St., Brooklyn, N. Y.
Variable & fixed air condensers

Cargille, R. P., 118 Liberty St., New York, N. Y.
Chemical laboratory & photographic devices

Cash Company, A. W., Decatur, Ill.
Combustion control instruments.

Central Scientific Co., 1700 Irving Park Blvd., Chicago, Ill.
Scientific instruments & laboratory apparatus

Central Station Steam Co., 2910 E. Woodbridge St., Detroit, Mich.
Rotary type condensate meter

Certified Gauge & Inst. Co., 34-18 Northern Blvd., Long Island City, N. Y.
Pressure, vacuum & compound indicating gages

Chace Co., W. M., 1600 Beard Ave., Detroit, Mich.
Thermostatic bimetals

Chaslyn Co., 4527 Ravenswood Ave., Chicago, Ill.
Storage battery testers

Chatillon & Sons, John, 85 Cliff St., New York, N. Y.
Iso-elastic springs

Chelsea Clock Company, 284 Everett Ave., Chelsea, Mass.
Clocks & clock movements

Chemical Rubber Co., 1933 West 114th St., Cleveland, Ohio
Laboratory supplies

Chicago Apparatus Co., 1735 No. Ashland Ave., Chicago, Ill.
Laboratory supplies

Chicago Dial Indicator Co., 544 W. Washington, Chicago, Ill.
Machinist's dial indicators

Chicago School of Aircraft Instruments, 2200 Lawrence Ave., Chicago, Ill.

Chicago Surgical & Electrical Co., 324 W. Superior St., Chicago, Ill.

Cincinnati Clock & Instrument Co., 1113 York St., Cincinnati, Ohio
Circuit breaker analyzer

Cincinnati Scientific Co., 224 Main St., Cincinnati, Ohio
Laboratory supplies

Cincinnati Time Recorder Co., 1733 Central Ave., Cincinnati, Ohio
Time recorders

Claflin Co., Geo. L., 150 Dorrance St., Providence, R. I.
Laboratory supply house

Clapp Inst. Co., Webster, Mass.
Aircraft instruments, thermometers & pressure & vacuum gages

Clare & Co., C. P., 4719 Sunnyside Ave., Chicago, Ill.
Relays, electric counters & electro mechanical specialties

Clark Blast Meter Co., Chas. J., Gladbrook, Iowa
Foundry blast meters & pressure gages

Clark & Sons Co., Alvan, 58 Day St., West Somerville, Mass.
Optical & astronomical instruments

Clark, Jr. Pneumatic Tool Co., Jas., 143 17 Ave., Paterson, N. J.
Adjustable snap gages

Clarostat Mfg. Co., Inc., 285 North Sixth St., Brooklyn, N. Y.
Resistors

Clay-Adams Co., Inc., 44 E. 23 St., New York, N. Y.
Angle & micro centrifuges, compact balances, analytical weights, microscope slides & cover glasses, glass & porcelain ink, tuning forks

Clebar Watch Co., 551 Fifth Ave., New York, N. Y.
Stop watches, timers & chronographs

Cleveland Gas Meter Co., 2180 East 65th St., Cleveland, Ohio
Tin case gas meters

Clifford Mfg. Co., 584 E. First St., Boston, Mass.
Metallic bellows & diaphragms; thermostatic assemblies; packless valves

Clough-Brengle Co., 5501 Broadway, Chicago, Ill.
Electrical instruments, communication testing instruments

Coats Machine Tool Co., Inc., 17 Tudor Lane, Scarsdale, N. Y.
Spring testers

Cochrane Corp., 17th St., Allegheny Avenue, Philadelphia, Pa.
Flowmeters, electrical & mechanical; liquid level meters & controllers; weir meters; pressure & temperature recorders; blow off & relief valves

Cole Co., H., 24 North High St., Columbus, Ohio
Surveying instruments

Coleman Electric Co., Inc., 310 Madison St., Maywood, Ill.
Electrical measuring instruments for technical applications

Colloid Equipment Co., Inc. 50 Church St., New York, N. Y.
Laboratory apparatus

Columbia Electric Mfg. Co., 4519 Hamilton Ave., Cleveland, Ohio
Rheostats, instruments, shunts, switchboards & special electrical equipment

Columbia Metal Box Co., 260 E. 143rd St., New York, N. Y.

Commerce Pattern Foundry & Machine Co., 2211 Grand River Ave., Detroit, Mich.
Balancing machines

Commercial Engineering Labs., 4612 Woodward Ave., Detroit, Mich.
Laboratory instruments for automotive, aircraft, railway & allied industries: air flow indicators, direct pressure & piezo-ray engine indicators, fuel flow indicators, magnetic gages, torsional vibration indicators (piezo-ray), recorders (torsiographs) & recording instruments for car performance & riding comfort

Commercial Iron Works, 2426 Porter St., Los Angeles, Calif.
Orifice fittings

Comtor Company, 87 Rumford Ave., Waltham, Mass.
Precision internal & external comparator-type diameter gages

Conant, George H., 719 Watson St., Ripon, Wis.

Connelly Iron Sponge & Governor Co., 3154 So. California Ave., Chicago, Ill.
Gages & manometers, B T U indicator & H_2S tester

Consolidated Ashcroft Hancock Co.
See Manning, Maxwell & Moore, Inc.

Consolidated Engineering Corp., 1255 East Green St., Pasadena, Calif.
Geophysical instruments, mass spectrometers, vibration measuring equipment

Consulting & Engineering Co., Carson St. & Terminal Way, Pittsburgh, Pa.
Combustion controllers

Continental Electric Co., Geneva, Ill.
Photoelectric tubes & equipment

Control Corporation, 600 Stinson Boulevard, Minneapolis, Minn.
Automatic & remote control equipment

Controls, Inc., Towaco, N. J.
Control valves; motor driven time delay relays; process timing devices

Cook Electric Co., 2700 Southport Ave., Chicago, Ill.
Electrical control devices, metal bellows, vapor motors & telephone protective & distributing apparatus

Cook Research Laboratories, L. H., Menlo Park, California
Precision testing instruments for oil industry, oil well cement testing equipment, combustible gas indicators, depth pressure recorders

Coors Porcelain Co., Golden, Colo.
Chemical & scientific porcelain

Corbin Screw Corp., New Britain, Conn.
Tachometers & speedometers

Cornell-Dubilier Electric Corp., So. Plainfield, New Jersey
Mica, dykanol, paper & wet & dry electrolytic capacitors

Corning Glass Works, Corning, N. Y.
Technical glassware

Cramer Co., Inc., R. W., Centerbrook, Conn.
Interval timers, running time meters, time switches, signal control switches, time delay switches

Crosby Steam Gage & Valve Co., 30 Church St., New York, N. Y.
Safety & relief valves, gages, recorders, testers & steam engine indicators

Cuthbert Co., Inc., 322 South Third St., Minneapolis, Minn.
Scientific grain, seed and food testing equipment

Curtin & Co., W. H., 2019 Franklin Ave., Houston, Tex.
Laboratory supplies

Cutler-Hammer, Inc., 315 North 12th St., Milwaukee, Wis.
Electric motor control, safety switches, motor driven valve operators, gas calorimeters, gas mixing & stabilizing control, resistors

D

Daigger & Co., A., 159 W. Kinzie St., Chicago, Ill.
Laboratory supplies

Daniel Orifice Fitting Co., 3350 U. P. Ave., Los Angeles, Calif.
Orifice fittings

Daven Co., 158 Summit St., Newark, N. J.
Attenuators, calibrating equipment for electrical instruments & resistors

Davis & Co., Inc., Dean W., 549 Fulton St., Chicago, Ill.
Solenoids & transformers

Davis Emergency Equipment Co., Inc., 45 Halleck St., Newark, N. J.
Inflammable gas alarms

Davis Regulator Co., 2541 So. Washtenaw Ave., Pilsen Sta., Chicago, Ill.
Valves

Dearborn Gage Co., 22038 Beech St., Dearborn, Mich.
Chromium plated gage blocks

Defender Automatic Regulator Co., 308 S. 8th St., St. Louis, Mo.
Industrial instruments

De Jur-Amsco Corp., Shelton, Conn.
Photoelectric exposure meters, electrical, radio & photographic products

Delmhorst, Wm. J., 90 West St., New York, N. Y.
Moisture detectors

Deming Indicator Co., 108 Fountain Ave., Dayton, Ohio
Test indicators

Demuth Glass Works, Inc., Wythe Ave. at N. 11th St., Brooklyn, N. Y.

Denominator Co., Inc., 261 Broadway, New York
Group counting machines

Denver Fire Clay Co., 2301 Blake St., Denver, Colo.
Specialized industrial control equipment for power plant & processing industries, laboratory specialties

D'Este Co., Julien, 69 A Street, So. Boston, Mass.
Control valves

Detecto Scales, Inc. see Jacobs Bros. Co., Inc.

Detroit Air Meter Co., P. O. Box 1473, Detroit, Mich.
Air flowmeters

Detroit Lubricator Co., 5900 Trumbull Ave., Detroit, Mich.
Automatic controls & equipment for air conditioning

Detroit Testing Machine Co., Grinnell Ave., Detroit, Mich.
Testing machines

Deutschmann Corp., Tobe, Canton, Mass.
Equipment for locating, eliminating, and measuring radio noise; electrolytic, paper dielectric & oil type capacitors

Dickson Co., 7428 Woodlawn Ave., Chicago, Ill.
Furnace controls

Dietert Co., Harry W., 9330 Roselawn Ave., Detroit, Mich.
Sand testing equipment; immersion pyrometers, moisture testers, accessories for spectrographic laboratories

Dietzen Co., Eugene, 2425 Sheffield Ave., Chicago.
Drafting & surveying instruments.

Dillon & Co., Inc., W. C., 5410 W. Harrison St., Chicago, Ill.
Traction dynamometers, tensile machines, thermometers

Distillation Products, Inc., 755 Ridge Road West, Rochester, N. Y.
High vacuum pumps, low vapor pressure fluids & auxiliary equipment

Doerr Glass Co., Inc., 500 Peach St., Vineland, N. J.

Dongan Electric Mfg. Co., 2987 Franklin St., Detroit, Mich.
Transformers

Doolittle Radio, Inc., 7421 Loomis Blvd., Chicago, Ill.
Frequency monitor

Dorr-Patterson Engineering Co., 3362 Wight St., Detroit, Mich.
Physical testing machines

Drafto Co., Cochranton, Pa.
Drafting machines

Driftmeter, Inc., 616 Exchange Bank Bldg., Tulsa, Okla.
Oil well instruments

Dubrovin, John, 2946 N. Kenneth Ave., Chicago, Ill.
Mercurial vacuum gage, absolute type

Ducommun Co., M., 580 Fifth Ave., New York, N. Y.
Coil-spring stopwatches

Du Mont Labs., Inc., Allen B., 2 Main Ave., Passaic, N. J.
Cathode-ray oscillographs, cathode-ray tubes, associated electronic equipment, television control, studio & transmitting equipment

Duncan Electric Mfg. Co., Lafayette, Ind.
A-c. & d-c. watthour meters, service & switchboard types; portable test meters, appliance meters & instrument transformers

Dunn, Inc., Struthers, 1321 Arch St., Philadelphia, Pa.
Relays, timing devices, electric counters, thermostats

Durant Manufacturing Co., 1914 N. Buffum St., Milwaukee, Wisc.
Counting & measuring machines

Dwyer Mfg. Co., F. W., 565 W. Washington Blvd., Chicago, Ill.
Portable & stationary draft gages, CO_2 indicators & combustion testing sets

E

Eagle Signal Corp., 202 20th St., Moline, Ill.
Industrial control devices, traffic signal controllers & sign flashers

Eastern Engineering Co., 45 Fox St., New Haven, Conn.
Laboratory pumps, stirrers & thermoregulators

Eastern Science Supply Co., 7-9 High St., Brookline, Mass.
Meteorological instruments

Eastern Scientific Co., 51 Bassett St., Providence, R. I.

Eastern Specialty Co., 3617 N. 8th St., Philadelphia, Pa.
Testing equipment for checking & maintenance of all types of electricity meters such as watthour meters, demand instruments, etc. Special apparatus for load survey work.

Eberbach & Sons, Ann Arbor, Mich.
Laboratory furniture

Eby, Inc., Hugh H., 4700 Stenton Ave., Philadelphia, Pa.
Relays & radio parts

Echo Electrical Manufacturing Co., 17 W. 11 St., Covington, Ky.
Electronic & mechanical timers, time delay relays

Eclipse Aviation, Div. of Bendix Aviation Corp., Bendix, N. J.
Aircraft electrical & mechanical accessories

Economy Electric Devices Co., 37 West Van Buren St., Chicago, Ill.
Electric meters, watthour & amperehour, for street and electric railways and trolley busses

Edelmann & Co., E., 2332 Logan Blvd., Chicago, Ill.
Automotive test instruments

Edison, Inc., Thomas A., Instrument division, West Orange, N. J.
Sealed-in-glass control devices, including thermostatic switches, fire detection thermostats, & timing relays. Hermetically sealed thermostatic valves. Special control equipment

Eimer & Amend, 635 Greenwich St., New York, N. Y.
Biological & chemical laboratory apparatus & supplies

Eitzen Co., Louis C., 17 W. 60 St., New York, N. Y.
Extensometers

Electric Auto-Lite Co., Chrysler Bldg., New York, N. Y.
Pressure & vacuum gages, speedometers, tachometers & thermometers

Electric Controller & Mfg. Co., 2700 East 79th St., Cleveland, Ohio
Electrical controllers

Electric Heat Control Apparatus Co., 507 Fifth Ave., New York, N. Y.
Laboratory ovens

Electric Indicator Corp., 21 Parker Ave., Stamford, Conn.
Synchronous motors, position indicators, level controls, signalling devices

Electric Sorting Machine Co., Michigan Trust Bldg., Grand Rapids, Mich.
Color analysers

Electric Speed Indicator Co., 1652 Onondaga, Lakewood, Ohio
Precision electric tachometers & remote position indicators

Electric Switch Corp., 1409 Union St., Columbus, Ind.
Mercury switches

Electric Tachometer Corp., 1358 Spring Garden St., Philadelphia, Pa.
Speed indicators & recorders, electric & mechanical counters

Electric Valve Mfg. Co., 64 Murray, New York, N. Y.
Electrically operated valves

Electrical Coil Winding Co., 2736 Saunders St., Camden, N. J.
Magnet & solenoid coils

Electrical Facilities Inc., 4224 Holden St., Oakland, Calif.
Apparatus for electrical measuring & testing, including precision transformers, watthour meter and instrument transformer testing equipment, rectifier apparatus

Electrical Research Products Inc. see Western Electric Co.

Electrical Testing Labs., 80th St. & East End Ave., New York, N. Y.
Electrical testing & inspection

Electrimatic Corp., 2100 Indiana Ave., Chicago, Ill.
Automatic control valves & controls, regulating valves. Pressure, temperature & electrical actuation

Electro-Medical Laboratory, Inc., Holliston, Mass.
Neurological & allied medical instruments & general electronic apparatus

Electro Products Laboratories, 549 West Randolph St., Chicago, Ill.
Battery eliminators & rectified A.C. devices

Electrocon Corp., 6 Varick St., New York, N. Y.
Vibration measuring instruments & equipment for dynamic balancing of rotating machines

Electronic Laboratory, 306 S. Edinburgh Ave., Los Angeles, Calif.
Photo-electric instruments; also photoconductive cells.

Electronic Products Co., Geneva, Ill.
Electronic devices

Electronic Research Laboratory, Niles Center, Illinois
Color analysis apparatus

Electrons, Inc. of Delaware, 127 Sussex Ave., Newark, N. J.
Gas-filled & grid-control rectifier tubes

Elematic Mfg. Co., 12757 S. Western Ave., Blue Island, Ill.
Pyrometers

Elgin National Watch Co., Elgin, Ill.
Watches, clocks, aircraft instruments, navigational instruments

Ellison Draft Gage Co., 214 West Kenzie St., Chicago, Ill.
Manometers, draft gages, orsats

Elsbert Mfg. Co., Inc., 910 W. Lake St., Chicago, Ill.
Remote control fractional horsepower motors

Emby Products Co., Inc., 1804 West Pico Blvd., Los Angeles, Calif.
Self-generating and selenium type photoelectric cells

Emerson Apparatus Co., 171 Tremont St., Melrose, Mass.
Calorimeters

Engel, Inc., H. C. M., P. O. Box 233, Sidney, N. Y.
Small drills, small turned parts, millstones in sapphire and block grinding discs

Engelhard, Inc., Charles, 233 New Jersey R. R. Ave., Newark, N. J.
Industrial instruments

Engineering Laboratories, Inc., 705 Kennedy Bldg., Tulsa, Okla.
Seismic exploration equipment, vibration detectors, petroleum engineering devices, signalling equipment

Eppley Laboratory Inc., 12 Sheffield Ave., Newport, R. I.
Thermopiles, pyrheliometers & standard cells for both industrial & laboratory use

Ermastat Co., 1825-39 Wylie St., Philadelphia, Pa.
Electric motor overload protectors

Erwin Co., O. E., 1274 Augusta Blvd., Chicago, Ill.

Ess Instrument Co., George Washington Bridge Plaza, Fort Lee, N. J.
Combustion indicators & recorders, visual & electric eye smoke indicators, flame failure alarms, sensitive relays & special electric eye indicators

Esterline-Angus Co., Inc., P. O. Box 596, Indianapolis, Ind.
Graphic recording & contact-making electrical instruments, time, speed, condensate purity, pressure & vacuum recorders, telemeters & portable current transformers

Etched Products Corp., 39-01 Queens Blvd., Long Island City, N. Y.
Dials, scales & panels

Eureka Manufacturing Co., 144 Britannia St., Taunton, Mass.
Bags, cases & chests for instruments

Everson Mfg. Co., 214 W. Huron St., Chicago, Ill.
Chemical feeders

Exact Weight Scale Co., 944 West 5th Ave., Columbus, Ohio
Over-and-under weight scales & indicators for industrial purposes

F

Faichney Instrument Corp., Watertown, N. Y.
Laboratory thermometers

Fairbanks, Morse & Co., 600 So. Michigan Ave., Chicago, Ill.
Scales

Falstrom Co., Main Ave. & D. L. & W. R. R., Passaic, N. J.
Steel instrument panels, panel board assemblies, cubicles, totally enclosed weather & vermin proof instrument enclosures & steel cabinets

rrel-Birmingham Co., Inc., 25 Main St., Ansonia, Conn.
Calipers for checking roll diameters & gear tooth comparators

ssett Co., Inc., C. M., 209 North Wall St., Spokane, Wash.
Laboratory supplies

cker, J. W., 2016 Perrysville Ave., N. S., Pittsburgh, Pa.
Astronomical instruments

deral Tool Corporation, 408 North Leavitt St., Chicago, Ill.
Gages, fixtures, dies & special tools

deral Pneumatic Systems, Inc., 127 N. Dearborn St., Chicago, Ill.
Particle size classifiers

deral Products Corp., 1144 Eddy St., Providence, R. I.
Precision measuring instruments

deral Telegraph Co., Inc., 200 Mt. Pleasant Ave., Newark, N. J.
Radio transmitting and direction finding equipment, transmitting tubes, field intensity meters, high speed engine indicators

e and Stemwedel, Inc., 1954 No. Western Ave., Chicago, Ill.
Dial type thermometers, barometers, humidity indicators & allied products, field glasses & binoculars

llows Gear Shaper Co., Springfield, Vt.
Gear checking machines & involute measuring machines

wal, Inc., 3 Main St., Ashland, Mass.
Industrial thermostats

ner Co., R. Y., 131 State St., Boston, Mass.
Precision instruments

ranti Electric, Inc., 30 Rockefeller Plaza, New York, N. Y.
Electrical instruments

rris Instrument Corp., Boonton, N. J.
Laboratory & production testing equipment, radio noise & field strength meters & special electrical instruments

delity Machine Co., 3906 Frankfort Ave., Philadelphia, Pa.
Abrasion testers
Vacuum thermocouples

ld Electrical Instrument Co., 2432 Grand Concourse, New York, N. Y.
Electrical instruments

nk-Roselieve Co., Inc., 109 W. 64th St., New York, N. Y.
Thermometers

scher & Porter Co., 37 County Line Road, Hatboro, Pa.
Rotameters, sight flow meters, automatic flow controllers, precision optical cells, precision bore glass tubing, & special precision glass apparatus.

sh-Schurman Corp., 230 East 45 St., New York, N. Y.
Scientific instruments, optical, technical & scientific glassware & porcelain

sher Governor Co., Marshalltown, Iowa
Motor control valves & regulators

sher Scientific Co., 711 Forbes St., Pittsburgh, Pa.
Standard & special equipment & instruments for chemical, biological & metallurgical laboratories

eischhauer & Son, Frank, 89-36 187 Place, Hollis, L. I., N. Y.
Instrument makers

uid Meters, Inc., 44 Wall St., Room 1101, New York, N. Y.
Positive displacement meters, 1/10 to 8 gallons per hour with gravity pressures

rd Meter Box Co., Wabash, Indiana
Water meter testers

rd Motor Company, 3674 Schaefer Rd., Dearborn, Mich.
Johansson gage blocks & accessories such as parallels, adjustable holders, scribers, straight edges, center points, sine bars

rd Regulator Valve Co., 403 Broome St., New York, N. Y.
Regulating valves

ster Engineering Co., 109 Monroe St., Newark, N. J.
Control valves

xboro Co., 46 Neponset Ave., Foxboro, Mass.
Indicating, recording & controlling instruments for pressure, temperature, humidity, level & flow

dericks Co., George E., Bethayres, Pa.
Glass instruments & apparatus

ick Co., Inc., Waynesboro, Pa.
Float valve controls & electric controls, refrigerating & air conditioning machinery

ied & Lustig, Inc., 31 Union Square, New York, N. Y.
Thermometers

iez & Sons, Division, Julien P., Bendix Aviation Corp., Taylor Ave. at Loch Raven Blvd., Towson, Md.
Temperature & humidity controls, gas & stoker controls, damper motors, electrical relays, temperature & humidity indicators & recorders, psychrometers, draft gages, anemometers, CO_2 analyzers

ess, Inc., R., 39 West 60th St., New York, N. Y.
Scientific instruments

Fuller Co., 110 Bridge St., Catasauqua, Pa.
Bulk material level controllers

Fulton Sylphon Co., Knoxville, Tenn.
Temperature & pressure regulators, sylphon bellows; thermostat assemblies; diesel controls; automobile thermostats; air conditioning controls

Furnas Electric Co., 811 South 72nd St., West Allis, Wis.
Pressure controls

G

Gaertner Scientific Corp., 1201 Wrightwood Ave., Chicago, Ill.
Measuring instruments including toolmaker microscopes, micrometer slides, micrometer microscopes, comparators, interferometers, spherometers, microscopes & telescopes for observation & inspection; time recording devices including chronographs & special devices; dividing machines for engraving linear & circular scales; goniometers; spectroscopic equipment & accessories

Gas Appliance Specialties Co., 57th St., bet. Northern Blvd. & 32nd Ave., Woodside, New York, N. Y.
Gas regulators

Gauthier, Donat A., 7408 Poe Ave., Detroit, Mich.
Gasoline measuring devices & automobile service station testers

Geier & Bluhm Inc., 607 River St., Troy, N. Y.
Mechanical devices & spirit level vials

Genales, Andrew, 29 Second Ave., Nyack, N. Y.
Toolroom test indicators

General Biological Supply House, Inc., 761 East 69th Pl., Chicago, Ill.
Biological laboratory supplies

General Combustion Corp., 2218 W. Lake St., Chicago, Ill.
Combustion equipment

General Controls Co., 1370 Harrison, San Francisco, Calif.
Control valves

General Electric Co., 1 River Rd., Schenectady, N. Y.
Electrical instruments & meters

General Electric Co., Lamp Dept., Nela Park, Cleveland, Ohio
Lighting sources

General Electric X-Ray Corp., 2012 Jackson Blvd., Chicago, Ill.
Medical, dental & industrial X-ray apparatus, accessories & suppliers

General Engg. & Model Works, 421 N. Braddock Ave., Pittsburgh, Pa.
Gages & precision measuring instruments for checking threaded tubular products

General Luminescent Corp., 638 Federal St., Chicago, Ill.
Luminous paint, fluorescent dials & pointers, radioactive dials & pointers, phosphorescent dials & pointers

General Physical Laboratory, 509 Fifth Ave., New York, N. Y.
Special light sources

General Radio Co., 30 State St., Cambridge, Mass.
Radio & electrical measuring instruments for laboratory & industrial use: stroboscopes, noise measuring equipment, measuring & test equipment for electrical communication systems

General Regulator Corp., 165 Broadway, New York, N. Y.
Combustion, draft, liquid level & pressure controls

General Sales & Products Corp., 45 Mohawk St., Cohoes, N. Y.
Shut-off valves

General Scientific Corp., 4829 So. Kedzie Ave., Chicago, Ill.
Lenses & photoelectric cells

General Television Corp., 70 Brookline Ave., Boston, Mass.
Ionization vacuum gages

Geophysical Instrument Co., 1315 Half St., S. E., Washington, D. C.
Instruments & accessories for prospecting for oil, minerals, water, bedrock; also equipment for making measurements in wells

Gilmore, E. R., Box 5718, Homewood Sta., Pittsburgh, Pa.
Gas leak stethoscopes

Gilmore Drug Co., W. J., 422 Blvd. of Allies, Pittsburgh, Pa.
Laboratory supplies

Gisholt Machine Co., Madison, Wis.
Static & dynamic balancing machines

Glass Engraving Co., 3604-3606 Park Ave., New York, N. Y.
Glass engraving

Gleason-Avery, Inc., 27 Clark, Auburn, N. Y.
Furnace controls

Globe Industries, Inc., 125 Sunrise Place, Dayton, O.
Aircraft instrument testing equipment, aircraft interval timing instruments, aircraft photo equipment, automatic control instruments

Globe Phone Mfg. Corp., Reading, Mass.
Pipe locating equipment, leaky valve locators, hearing aids, secret phone or listening equipment for government investigating agencies

Globe Tool & Engg. Co., 410 Davis Ave., Dayton, Ohio
Dynamic balancing equipment

Glogau & Co., 1632 Rand McNally Bldg., Chicago, Ill.
Calipers

G-M Laboratories, Inc., 4326 N. Knox, Chicago, Ill.
Photoelectric cells, photoelectric relays, slide wire rheostats, galvanometers, laboratory stands & clamps

G. M. Manufacturing Co., 248 Lafayette St., New York, N. Y.
Thermometers, hydrometers, psychrometers, hygrometers

Goerz American Optical Co., C. P., 317 East 34th St., New York, N. Y.
Photographic lenses, optical prisms & flats, and other optical units to specification

Goetze Niemer Co., 808 Francis St., St. Joseph, Mo.
Laboratory supply house

Gogan Machine Corp., 1440 E. 55 St., Cleveland, Ohio
Automatic hardness testers

Goldak Co., 1031 S. Broadway, Los Angeles, Calif.
Surveying instruments, pipe locators, leak detectors

Goodrich Co., B. F., 450 South Main St., Akron, Ohio
Vibration absorbers

Gordon Co., Claud S., 3000 S. Wallace St., Chicago, Ill.
High temperature equipment accessories, such as thermocouples, thermocouple wire, lead wire, insulators

Gorrell & Gorrell, Chicago Heights, Ill.
Equipment for biological & psychological work

Gotham Instrument Co., 149 Wooster St., New York, N. Y.
Indicating, dial & recording thermometers

Gotham Scientific Co., 106 Water St., New York, N. Y.
Laboratory supplies

Gow-Mac Instrument Co., 22 Lawrence St., Newark, N. J.
Thermal conductivity gas analyzers & gas analysis cells

Graver Tank & Mfg. Co., Inc., East Chicago, Ind.
Automatic proportioning feeders

Gray Instrument Co., 64½ W. Johnson St., Philadelphia, Pa.
Scientific instruments

Green, Henry J., 1191 Bedford Ave., Brooklyn, N. Y.
Meteorological instruments

Greene Bros., Inc., 1810 Griffin St., Dallas, Texas
Laboratory Supplies

Greenfield Tap & Die Corp., Greenfield, Mass.
Machine shop gages

Greiner, Inc., Emil, 55 Vandam St., New York, N. Y.
Laboratory Supplies

Griebel Co., E., 8 Wayne St., Carbondale, Pa.
Thermometers, hydrometers, chemical & laboratory glassware

Griner Co., A. J., 417 East 13th St., Kansas City, Mo.
Laboratory supplies

Grove Regulator Co., 1729 Poplar St., Oakland, Calif.
Pump governors, pressure reducing & back pressure regulators for gas or liquid pressures to 6000 lbs.

Guardian Electric Mfg. Co., 1621 W. Walnut St., Chicago, Ill.
A-c. and d-c. relays

Gump Co., B. F., 435 S. Clinton St., Chicago, Ill.
Scales

Gurley, W. & L. E., 514 Fulton St., Troy, N. Y.
Surveying & allied engineering instruments, paper testing & aeronautical navigation instruments & standard weights & measures

H

Hagan Corp., 600 Bowman Bldg., Pittsburgh, Pa.
Combustion control equipment

Haines Gauge Co., 119 South 4th St., Philadelphia, Pa.
Dial micrometer gage

Hankscraft Co., 1007 E. Washington Ave., Madison, Wis.
Timers

Halldorson Co., 4500 Ravenswood Ave., Chicago, Ill.
Laboratory transformers

Halliburton Oil Well Cementing Co., Duncan, Okla.
Oil well surveying instruments

Hamilton Mfg. Co., Two Rivers, Wis.
Laboratory furniture

Hanlon-Waters, Inc., Box 1559, Tulsa, Okla.
Pressure & level controls, time cycle controllers

Hannifin Mfg. Co., 621 So. Kolmer Ave., Chicago, Ill.
Valve operating devices

Hanovia Chemical & Mfg. Co., 90 Chestnut St., Newark, N. J.
Quartz mercury arc lamps

Hardwick, Hindle, Inc., 40 Hermon St., Newark, N. J.
Resistors

Hart Manufacturing Co., 110 Bartholomew Ave., Hartford, Conn.
Thermostats, remote control switches, magnetic relays, heater switches, motor control switches, mercury tube relays

Hart Mfg. Co., R. E., 416 Ward Bldg., Battle Creek, Mich.
Production counters

Hart Moisture Gauges, Inc., 126 Liberty St., New York, N. Y.
Kaydel moisture gages.

Hasler-Tel Co., 30 Vesey St., New York, N. Y.
Speed indicators, portable, chronometric

Hathaway Instrument Co., 1315 S. Clarkson St., Denver, Colo.
Instruments & apparatus for electrical & mechanical measurements & control.

Hausser & Son, C. A., 6040 Belfield Ave., Philadelphia, Pa.

Hayes Scientific Appliances, 202 N. Broadway, Urbana, Ill.
Scientific instruments

Hays Corp., P. O. Box 299, Michigan City, Ind.
Combustion instruments & automatic combustion controls

Hayward, H. N., 612 W. Oregon St., Urbana, Ill.
Tachometer Testers

H-B Electric Co., 6122 N. 21 St., Philadelphia, Pa. phia, Pa.
Mercury tube relays

H-B Instrument Co., Inc., 2501 N. Broad St., Philadelphia, Pa.
Thermometers & hydrometers, remote control equipment

HD Electric Co., 100 W. Monroe St., Chicago, Ill.
Split core ammeters

Hebler Co., W. O., Central at Long Ave., Hillside, N. J.
Electrical gas analyzers

Heil Corporation, 216 S. 4 St., St. Louis, Mo.
Laboratory Supplies

Heiland Research Corp., 700 Club Bldg., Denver, Colo.
Geophysical instruments, photoflash synchronizers, gas detectors, oscillographs, strain gages, vibration detectors, recording cameras & industrial instruments

Heise Bourdon Tube Co., 275 Noble Ave., Bridgeport, Conn.
Bourdon tube devices

Hellige, Inc., 3718 Northern Blvd., Long Island City, N. Y.
Scientific instruments, laboratory & bacteriological supplies

Henderson & Co., H. B., East Liverpool, Ohio
Pyrometric cones

Henschel & Co., Inc., John, 105 E. 29th St., New York, N. Y.
Drawing instruments

Henszey Co., Watertown, Wis.
Feed water meters, flow indicators continuous blowdown, heat exchangers and boiler feed regulators. Also meters and flow indicators for corrosive chemicals

Herkimer Tool & Model Works, 119 George St., Herkimer, N. Y.
Sine bars & gaging fixtures

Heusser Instrument Mfg. Co., 134 West Second South St., Salt Lake City, Utah
Analytical balances

Hewlett-Packard Co., 481 Page Mill Road, Palo Alto, California.
Electronic equipment

Heyman Co., 157 Chambers St., New York, N. Y.
Inspection Instruments

H & H Thermostats, Inc., 270 Lafayette St., New York, N. Y.
Thermostatic devices

Hickok Electrical Instrument Co., 10514 Dupont Ave., Cleveland, Ohio
Electric indicating instruments

Hodgman Rubber Co., Framingham, Mass.
Plastic tubing & fittings

Hoffman Co., S. O., 835 Howard St., San Francisco, Calif.
Bolometers

Hoke, Inc., 585 Eagle Ave., New York, N. Y.
Regulators

Holtzer-Cabot Electric Co., 125 Amory St., Boston, Mass.
Fractional Horsepower Motors

Hopp Press, Inc., 460 W. 34 St., New York, N. Y.
Nameplates, dial faces, scales, instruction plates

Hoskins Mfg. Co., 4445 Lawton Ave., Detroit, Mich.
Thermo-couples, heating elements, pyrometers & electric furnaces

Howard Clock Products, Inc., 256 Charles St., Waltham, Mass.
Observatory & seismological clocks.

Howe & French, Inc., 99 Broad St., Boston, Mass.
Laboratory supplies

Howe Scale Co., Rutland, Vt.
Scales

Humboldt Mfg. Co., 2014 N. Whipple St., Chicago, Ill.
Cement & concrete testers

Hunt & Son, C. B., Salem, Ohio
Valves & valve operating devices.

Hydraulic Controls, Inc., 122 Michigan Ave., Chicago, Ill.
Hydraulic control systems

Hydraulic Press Co., Mount Gilead, Ohio
Pressure controls

Hy Ef Electrical Products Mfg. Co., 1515 West Pico, Los Angeles, Calif.
Automobile service station instruments

I

Ideal Commutator Dresser Co., 1420 Park Ave., Sycamore, Ill.
Insulation testers & revolution counters

Illinois Engineering Co., Racine Ave. & 20th Pl., Chicago, Ill.
Regulating valves

Illinois Tool Works, 2501 N. Keeler Ave., Chicago, Ill.

Illinois Testing Laboratories, Inc., 142 West Hubbard St., Chicago, Ill.
Indicating pyrometers, resistance thermometers, pyrometer controllers, air velocity meters, metal detectors.

Impact Register Co., 315 So. Neil St., Champaign, Ill.
Instruments for determining and recording impacts received by railroad cars and riding qualities of railroad cars, automobiles

Improved Gauge Mfg. Co., 101-105 Canal St., Syracuse, N. Y.
Bourdon gages

Indicating Calipers Corp., 506 East 19th St., New York, N. Y.
Indicating calipers

Industrial Engineering Corp., Evansville, Ind.
Relays

Industrial Filter & Pump Mfg. Co., 3017 W. Carroll Ave., Chicago, Ill.
Salt spray testers

Industrial Instruments, Inc., 156 Culver Ave., Jersey City, N. J.
Electrical measuring & test equipment

Industrial-Scientific Supply Co., 828½ Monroe St., Fort Worth, Texas
Laboratory Supplies

Industrial Timer Corp., 101 Edison Place, Newark, N. J.
Industrial Timers, motor driven, with automatic reset. Controllers, signals, testing equipment for electrical parts (operation or life test)

Industrial X-Ray Co., 1613 Second Ave., Seattle, Wash.
X-Ray equipment & X-ray inspection service

Industro-Scientific Co., 340 So. Camac St., Philadelphia, Pa.
Valentine refractometers & PQ viscosimeters

Inferno Co., Box 1138, Shreveport, La.
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Instrument resistors

Instrument Specialties Co., Inc., 379 Main St., Little Falls, N. J.
Precision micrometer

International Business Machines Corp., 590 Madison Ave., New York, N. Y.
Scales & time instruments

International Equipment Co., 352 Western Ave., Brighton, Boston, Mass.
Analytical centifuges

Infilco Inc., 325 W. 25th Place, Chicago, Ill.
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International Register Co., 2620 W. Wash. Blvd., Chicago, Ill.
Coin meters—timers for electric ranges & gas ovens.

International Resistance Co., 401 N. Broad St., Philadelphia, Pa.
Metallized & wirewound fixed & variable resistors including high voltage & high frequency types.

J

Jackson Electrical Instrument Co., 129 Wayne Ave., Dayton, Ohio
Radio testing equipment

Jacobs Bros. Co. Inc., 1 Main St., Brooklyn, N. Y.
Scales

Jaeger Watch Co., Inc., 304 East 45th St., New York, N. Y.
Automobile clocks, timepieces for aviation and marine, chronometric tachometers & true airspeed indicators

Jardur Import Co., 21 W. 19th St., New York, N. Y.
Chronographs & stop-watches

Jarrell-Ash Co., 165 Newbury St., Boston, Mass.
Representatives for Adam Hilger, Ltd., manufacturers of optical instruments

J B L Instrument Co., 228 Hazelwood Ave., Alden, Pa. Clifton P. O.
Rotary instrument switches, transformer tapping, railway signal gear, decade resistance boxes

J-B-T Instruments, Inc., 441 Chapel St., New Hav Conn.
Electrical measuring & controlling instruments: p rometers, thermocouples, selector switches, pot tiometers, resistance thermometers, laboratory struments

Jeffrey Mfg. Co., Columbus, Ohio
Weighting, feeding, batching & proportioning equ ment

Jenkins Bros., 80 White St., New York, N. Y.
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Jewett Refrigerator Co., 226 Letchworth St., Buffal N. Y.
High altitude test & calibration chambers

Johnson Service Co., 507 E. Michigan St., Milwauk Wisc.
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Johnson-Williams, Ltd., Box 8, Palo Alto, Calif.
Combustible gas indicators & alarm systems, p table & continuous, including accessories

Johnston Manufacturing Co., 2823 E. Hennepin Av Minneapolis, Minn.
Furnace controls

Jones & Lamson Machine Co., Clinton & Whitm Sts., Springfield, Vt.
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Jones Motrola Sales Co., 432 Fairfield Ave., Sta ford, Conn.
Tachometers, speed indicators & speedometers

Jorgan Co., 65 Atlantic Ave., Rochester, N. Y.

Judson Governor Co., 38 Browns Race, Rochest N. Y.
Governors

K

Kansas City Laboratory Supply Co., 1434 Wyando St., Kansas City, Mo.
Laboratory supplies

Karp Metal Products Co., Inc., 129 - 30th St., Bro lyn, N. Y.
Instrument panels

Kauffman-Lattimer Co., 263 N. Front St., Columbu Ohio
Laboratory Supplies

Keller Mfg. Co., G. P., 2803 Colorado Ave., San Monica, Calif.
Balances & weights of precision

Kelley-Koett Mfg. Co. Inc., Covington, Ky.
X-Ray apparatus

Kellogg Switchboard & Supply Co., Clearing Stati Chicago, Ill.
Relays

Kenyon Instrument Co., Inc., 1345 New York Av Huntington, L. I., N. Y.
Airport & marine instruments

Kern Co., 136 Liberty St., New York, N. Y.
Surveying & astronomical instruments

Kessler Co., Walter H., 128 Water St., New Yo N. Y.
Thermometers and hydrometers

Kester Solder Co., 4216 Wrightwood Ave., Chica Ill.
Cored solders

Keuffel & Esser Co., Adams & Third Sts., Hobok N. J.
Surveying instruments

Kewaunee Mfg. Co., End of So. Center St., Adria Mich.
Laboratory furniture

Kieley & Mueller, Inc., 2013-2033—43 St., Nor Bergen, N. J.
Pressure regulating & flow control devices

Kimball Co., W. W., 420 Kimball Bldg., Chicag Ill.
Laboratory furniture

Kimble Glass Co., Vineland, N. J.
Glass apparatus, glass tubing, thermometers, hydrom eters

King, Andrew, 521 Broad Acres Road, Narberth, P
Portable Brinell Hardness Tester

King Engineering Corporation, 942 Gordon Ave., A Arbor, Mich.
Liquid level indicators, distant reading

Kirk & Blum Manufacturing Co., 2838 Spring Gro Ave., Cincinnati, O.
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Klett Mfg. Co., 179 E. 87th St., New York, N.
Colorimeters

Klingerit, Inc., 16 Hudson St., New York, N. Y.
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Klipfel Mfg. Co., 2641 W. Harrison St., Chicago, Il
Regulating valves

Knickerbocker Development Corp., 116 Little St Belleville, N. J.
Automatic testing apparatus, electrical instrument stroboscopes

Knopf, Paul, 43 Ave. & 37 St., Long Island Cit N. Y.
Registering instruments for vehicles

Knowles Scale Works, Lowell, Mass.
Platform, counter & beam scales

Koch & Co., F. A., 72 Spring St., New York N.

Kold-Hold Mfg. Co., 424 N. Grand Ave., Lansing, Mich.
High altitude test & calibration chambers

Kolesch & Co., 138 Fulton St., New York, N. Y.
Surveying instruments

Kollmorgen Optical Co., 767 Wythe Ave., Brooklyn, N. Y.
Astronomical & optical instruments

Kollsman Instrument Div., Square D Co., 8008 - 45th Ave., Elmhurst, Long Island, N. Y.
Precision instruments for aircraft

Kron Co., Bridgeport, Conn.
Scales

Krouse Testing Machine Co., 101 E. Dominion Blvd., Columbus, Ohio
Fatigue testing machines

Kuner Co., Max, 804 First Ave., Seattle, Wash.
Nautical instruments

Kurman Electric Co., Inc., 30-30 Northern Blvd., Long Island City, New York
Relays, electrical test equipment, hearing devices

L

L. A. B. Corp., P. O. Box 162, Summit, N. J.
Special instruments

Laboratory Construction Co., 1113-15 Holmes St., Kansas City, Mo.
Laboratory furniture & apparatus

Laboratory Equipment Corp., 720 E. Main St., Benton Harbor, Mich.
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Laboratory Furniture Co., Inc., 37-18 Northern Blvd., Long Island City, N. Y.
Laboratory furniture

Laboratory Materials Co., 7319 Vincennes Ave., Chicago, Ill.
Laboratory supplies

Laboratory Specialties, Inc., 130 S. Wabash St., Wabash, Ind.
Mirrors—front surfaces & aluminized; Monochromatic light sources, Black light apparatus, Diffraction gratings, Spectroscopes, Fluorescent & phosphorescent materials

Lackner Co., Lackner Bldg., Cincinnati, O.
Aviation instruments

Lambert Meter Co., Inc., Plainfield, N. J.
Gas meters

Lammert & Mann Co., 260 N. Woods St., Chicago, Ill.
Flow regulators & valves

LaMotte Chemical Products Co., McCormick Bldg., Baltimore, Md.
Hydrogen ion apparatus

Lampkin Laboratories, Bradenton, Fla.
Radio-frequency meters

Landis & Gyr, Inc., 104 Fifth Ave., New York, N. Y.
Electric integrating meters; indicating & graphic demand meters for KW, KVA, reactive; prepayment meters; totalizing & remote; time switches; motor wound escapement or synchronous motor types with astronomic dials; miniature ball bearings

Lane Wells Co., 5610 So. Soto St., Los Angeles, Calif.
Oil well testing instruments

Lantz-Phelps Corp., 420 Linden Ave., Dayton, Ohio
Automotive test instruments

La Pine & Co., Arthur S., 114 W. Hubbard St., Chicago, Ill.
Laboratory supplies

Lavoie Laboratories, Morganville, N. J.
Ultra high frequency precision frequency meter

Lawrence & Hill, Inc., 142 Main Ave., Watertown, N. Y.
Gages & gaging fixtures

Leach Relay Co., 5915 Avalon Blvd., Los Angeles, Calif.
Relays

Lear Avia, Inc., Piqua, Ohio
Aircraft controls, aircraft communication equipment, transmitters, receivers, & direction finders

Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Electrical measuring instruments for both laboratory & plant. For laboratory: bridges, galvanometers, potentiometers, photometric equipment, test sets & standards. For plant: indicators, recorders & controllers for chemical concentration, CO_2, current, electrolytic conductivity, frequency, gas analysis, humidity, Kw, Rkva, light, electrical load, pH, pressure, pyrometry, radiation, smoke density, speed, temperature, voltage. Speedomax Recorders, Centrimax Flowmeters & Metermax Combustion control Systems

Leitz, Inc., E., 730 Fifth Ave., New York, N. Y.
Optical instruments

Lenox Instrument Co., 2010 Chancellor St., Philadelphia, Pa.
Optical and technical instruments

Leslie Co., Lyndhurst, N. J.
Pressure reducing valves, pump governors, temperature regulators

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Portable pyrometers, potentiometers, resistance thermometers & other electrical temperature measuring devices

Lewyt Metal Products, 60 Broadway, Brooklyn, N. Y.
Instrument housings

Lincoln Meter Co., Springfield, Ill.
Thermal ampere demand & watt demand meters, indicating & graphic

Lincoln Park Tool & Gage Co., Lincoln Park, Mich.
Precision inspection equipment

Lindberg Engineering Co., 2450 W. Hubbard St., Chicago, Ill.
Electric power input controls

Link Engineering & Mfg. Co., 1054 W. Baltimore Ave., Detroit, Mich.
Spring testers

Lipman Engineering Co., 415 Van Braam St., Pittsburgh, Pa.
Photoelectric counters

Liquidometer Corp., 36-16 Skillman Ave., Long Island City, N. Y.
Liquid level gages

Littelfuse, Inc., El Monte, Calif.
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Lord Mfg. Co., 1635 W. 12 St., Erie, Pa.
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Timers

Lufkin Rule Co., Saginaw, Mich.
Precision tools & measuring tapes

Lumenite Electric Co., 37 West Van Buren St., Chicago, Ill.
Photoelectric controls

Lundquist Tool & Mfg. Co., 57 Jackson St., Worcester, Mass.
Ammeters

Lux Clock Mfg. Co., Inc., 95 Johnson St., Waterbury, Conn.
Automatic timers & clock mechanisms

M

Macbeth Daylighting Corp., 227 West 17th St., New York, N. Y.
Daylight Lamps for titration & color matching

Machlett & Son, E., 220 East 23rd St., New York, N. Y.
Laboratory apparatus & supplies

Magnaflux Corp., 5908 Northwest Highway, Chicago, Ill.
Magnetic inspection equipment

Magnatrol Valve Corp., 52 Beekman St., New York, N. Y.
Valves

Magnavox Co., Inc., Fort Wayne, Indiana
Electrolytic capacitors

Magnetic Analysis Corp., 42-44 12th St., Long Island City, N. Y.
Magnetic inspectors for uniform cross-sectional steel

Magnetic Gauge Co., 60 E. Bartges St., Akron, Ohio
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Mahady Co., E. P., 857 Boylston St., Boston, Mass.
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Mahoney, James A., 140 West 42nd St., New York, N. Y.
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Maris Co., John M., 528 Arch St., Philadelphia, Pa.
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Marsh Corp., Jas. P., 2073 Southport Ave., Chicago, Ill.
Indicating gages, recording gages, dial thermometers, recording thermometers, refrigeration service instruments, temperature controlling systems, valves for heating systems

Marshall Co., C. & E., 1445 West Jackson Blvd., Chicago, Ill.
Manufacturers & distributors of jewelers, watchmakers & engravers supplies

Marston Co., C. A., 506 Washington St., Braintree, Mass.
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Martindale Electric Co., Box 2669, Lakewood Branch, Cleveland, Ohio
Insulation testers

Martin-Decker Corp., 3431 Cherry Ave., Long Beach, Calif.
Torque gages & pull rod dynamometers

Mason-Neilan Regulator Co., 1190 Adams St., Boston, Mass.
Industrial control equipment for pressure temperature, flow, liquid level, combustion & ratio: diaphragm control valves; pressure & vacuum regulators; level controllers; pump speed governors; pump pressure regulators; pipe strainers

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Manual & automatic controls for air, oil gas, steam, chemicals, pure food, acid & alkali

McCord Radiator & Mfg. Co., 2585 E. Grand Ave., Detroit, Mich.
Liquid meters for low flows

McCorkle Co., D. H., 6th & Bancroft Way, Berkeley, Calif.
Thermostats & electric gas valves

McDonnell & Miller, Room 1316, Wrigley Bldg., Chicago, Ill.
Boiler controls

McDonnell Odometer Co., 3501 So. Kedzie Ave., Chicago, Ill.
Counters

McFarlin Co., 29 West Marion Ave., Youngstown, Ohio
Leak detectors

McKesson-Doster-Northington Co., 1706 First Ave., Birmingham, Ala.
Laboratory supplies

McNab of Bridgeport, Inc., Bridgeport, Conn.
Marine appliances, torsionmeters, salinity indicators, revolution counters

McNeill Engineering Equipment Co., T. W., 4057 West Van Buren St., Chicago, Ill.
Smoke alarms

Measurements Corp., Boonton, N. J.
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Mellophone Corp., 714 University Ave., Rochester, N. Y.
Rectifiers

Merco Nordstrom Valve Co., 400 Lexington Ave., Pittsburgh, Pa.
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Mercon Regulator Co., 2357 N. 29th St., Milwaukee, Wisc.
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Consistency controls

Metron Instrument Co., 432 Lincoln St., Denver, Colo.
High frequency amplifiers, electric instruments, oscillators, radio remote control systems

Metals Research Apparatus, Inc., Corliss Station, Pittsburgh, Pa.
Industrial instruments & apparatus

Meter Devices Co., 1001 Prospect Ave., S. W., Canton, Ohio
Electrical test devices

Metzger & Son, F. F., 2600 N. 6 St., Philadelphia, Pa.
Extensometers

Meyer, Max, 76 Willoughby St., Brooklyn, N. Y.
Laboratory apparatus

Meyer Governor Co., 284 Baker Bldg., Minneapolis, Minn.
Long-distance recording, indicating, and contact-making instruments; gage pulsation protectors

Meylan, A. R. & J. E., 264 West 40th St., New York, N. Y.
Stop watches

M-G Gage Co., 107 Franklin St., Syracuse, N. Y.
Snap gages

Mico Instrument Co., 10 Arrow St., Cambridge, Mass.
Precision devices in industrial & scientific fields

Microchemical Service, 30 Van Zandt Ave., Douglaston, N. Y.
Microchemical laboratory apparatus

Microstat Corp., P. O. Box 126, Norwalk, Conn.
Photographic equipment for use in microfilming industry

Micro Switch Corp., Spring St., Freeport, Illinois
Snap action switches

Mid-West Dynamometer & Engg. Co., Western Ave., at 60 St., Chicago, Ill.
Dynamometers

Millen Mfg. Co., James, 150 Exchange St., Malden, Mass.
Radio test instruments

Miller Co., B. F., P. O. Box 455, Trenton, N. J.
Electrical testing devices

Miller Corp., Wm., 362 W. Colorado St., Pasadena, Calif.
Machine shop gages

Millers Falls Co., Greenfield, Mass.
Machine shop gages

Million Radio & Television, 685 West Ohio St., Chicago, Ill.
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Milwaukee Gas Specialty Co., 2025 W. Clybourn, Milwaukee, Wis.
Valves, fittings & safety shut-offs for gas fired equipment

Minerallac Electric Co., 25 N. Peoria St., Chicago, Ill.
Potential detectors

Mine Safety Appliances Co., Braddock, Thomas and Meade Sts., Pittsburgh, Pa.
Instruments for the detection, analysis & recording of toxic and combustible gases; instruments for sampling, counting & measuring dust particles

Mine & Smelter Supply Co., 1422-17th St., Denver, Colo.
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Monitor Controller Co., Gay, Lombard & Frederick Sts., Baltimore, Md.
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Morey and Jones, Ltd., 922 So. Hemlock St., Los Angeles, Calif.
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Geophysical instruments

Munsell Color Co., Inc., 10 E. Franklin St., Baltimore, Md.
Color comparators

Mu-Switch Corp., Canton, Mass.
Snap action switches

Muter Company, 1255 S. Michigan Ave., Chicago, Ill.
Radio & electrical products

N

Nashville Surgical Supply Co., 401 Church St., Nashville, Tenn.

Nathan Mfg. Co., 250 Park Ave., New York, N. Y.
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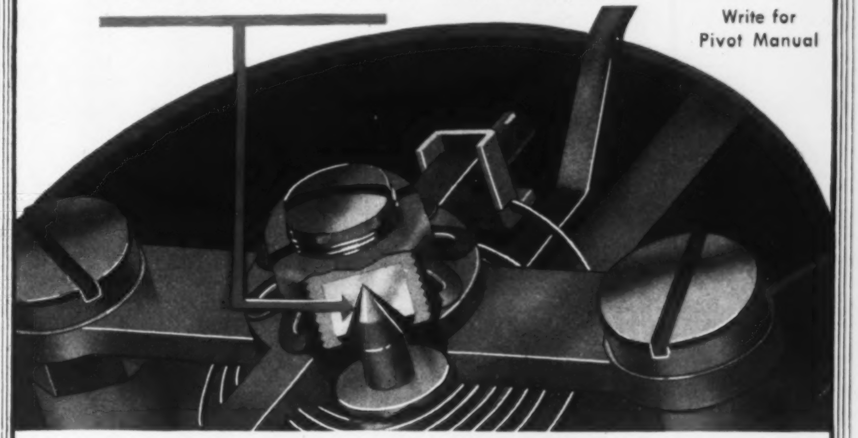

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Altimeters, airspeed indicators, fuel flow meters, detonation indicators, electronic measuring meters

Tejax Engineering Corp., 2 Allens Ave., Providence, R. I.
Dial indicating handwheels, valve position indicators & V-port hand regulating valves

Tempil Corp., 132 West 22 St., New York, N. Y.
Thermoscopic paint & thermometric sticks

Televiso Products, Inc., 6533 Olmstead Ave., Chicago, Ill.
Electronic products; custom built equipment

Teleweld, Inc., 80 E. Jackson Blvd., Chicago, Ill.
Hardness testers

Tenney Engineering, Inc., 46 Farrand St., Bloomfield, N. J.
Controlled temperature & humidity ovens

Test-A-Tone Co., 274 Madison Ave., New York, N. Y.
Stethoscopes

Testing Machines, Inc., 460 West 34th St., New York, N. Y.
Physical testing machines

Testrite Instrument Co., 57 E. 11th St., New York, N. Y.
Scientific instruments

Thermal Syndicate Ltd., 12 East 46th St., New York, N. Y.
Apparatus, laboratory; flats, optical; gas & vapor discharge tubes, mercury; light sources, mercury vapor; light sources; ultra-violet; optical parts

Therm-Electric Meters Co., Inc., Box 604, Ithaca, N. Y.
Indicating & recording thermal wattmeters, ampere and KVA meters of rating 5 to 50 amps. self-contained. Test panels & test boards for meter testing

Thermo-Electric Co., 1012 W. Superior Ave., Cleveland, Ohio
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Thomas Clocks, Seth, Div. of General Time Instruments Corp., Thomaston, Conn.
Household clocks, outdoor & tower clocks, clock movements for industrial purposes, also electric timers

Thomas Co., Arthur H., West Washington Square, Philadelphia, Pa.
Dealers, retail-wholesale-export, in laboratory apparatus & reagents for laboratories of chemistry & biology.

Thompson Clock Co., H. C., Bristol, Conn.
Electric stop clocks & interval timers

Thordarson Electric Mfg. Co., 500 W. Huron St., Chicago, Ill.
Transformers

Thwing-Albert Instrument Co., Penn St. at Pulaski Ave., Philadelphia, Pa.
Pyrometers, paper testing instruments, portable pH meters, general testing instruments & machines

Tinsley Laboratories, 2035 Ashby Ave., Berkeley, Calif.
Astronomical instruments

Toledo Scale Co., 3216 Monroe St., Toledo, Ohio
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Torsion Balance Co., 92 Reade St., New York, N. Y.
See Christian Becker, Inc.

Trerice Co., H. O., 1420 Lafayette Blvd., W., Detroit, Mich.
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Triangle Package Machinery Co., 905 N. Spaulding St., Chicago, Ill.
Filling machines

Trill Indicator Co., 38 E. South St., Corry, Pa.
Engine indicators

Trimount Instrument Company, 408 South Plymouth Court, Chicago, Ill.
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Triner Sales Co., 1440 Merchandise Mart, Chicago, Ill.
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Triplett Electrical Instrument Co., 135 E. College Ave., Bluffton, Ohio
Electrical measuring instruments & radio testing equipment. Also instruments for laboratory and industrial test purposes; switches, relays, resistors, shunts

Triumph Mfg. Co., 4017 W. Lake St., Chicago, Ill.
Radio test instruments

Troemner, Henry, 911 Arch St., Philadelphia, Pa.
Balances

Troy Tool & Gage Co., 5736 Twelfth St., Detroit, Mich.
Precision gages

U

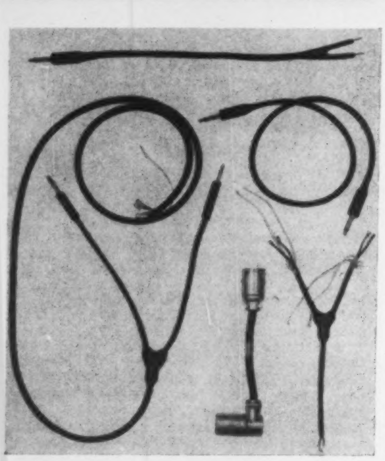
Uehling Instrument Co., 14 Vesper St., Paterson, N. J.
CO_2 recorders, vacuum recorders, absolute pressure recorders, draft recorders, combined pressure & vacuum recorders, liquid level gages, pressure & vacuum gages, inclined draft gages, well-type direct reading manometers, U tube manometers, absolute pressure gages.

Ulanet Co., George, 86 E. Kinney St., Newark, N. J.
Thermostats

Ulmer Co., J. C., 1791 E. 38th St., Cleveland, Ohio
Surveying instruments

Ultra-Violet Products, Inc., 5205 Santa Monica Blvd., Los Angeles, Calif.
Fluorescence and ultra-violet lamps

Unertl Optical Co., John, 412 Cemetery Lane, R.D. 4, Pittsburgh (9), Pa.
Optical instruments



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United States Blue Print Paper Co., 207 S. Wabash Ave., Chicago, Ill.
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United States Gauge Co., 44 Beaver St., New York, N. Y.
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Veeder-Root, Inc., Sargent & Garden Sts., Hartford, Conn.
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Tachometers

Vinco Corp., 9111 Schaefer Highway, Detroit, Mich.
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Visco-Meter Corp., 315 Grote St., Buffalo, N. Y.
Viscosimeter

Voland & Sons, Inc., New Rochelle, N. Y.
Analytical balances & weights

W

Wadsworth Electric Mfg. Co., Inc., Covington, Ky.
Electric time switches

Wagner & Son, Carl H., 1944 N. Albany Ave., Chicago, Ill.
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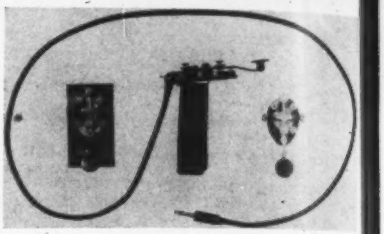

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Williams, Brown & Earle, Inc., 918 Chestnut St., Philadelphia, Pa.
Laboratory supplies

Williams Gauge Co., 1620 Pennsylvania Ave., Pittsburgh, Pa.
Water level gages

Willson Products, Inc., Reading, Penna.
Anemometers

(Continued on Page I-106)

Manufacturers' New Literature

In this department we report ALL pieces of new literature pertaining to Instrumentation, received from the manufacturers. To assist in the War Effort we urge readers to request ONLY those bulletins which will be of value to them. Use the no-stamp-needed card below.

K-1 **New Bonding Ring.** Leaflet, 8½" × 11", 2 pages, covers a new bonding ring which may be used wherever there is a need for bonding between electrical plug shell and wire shielding, and may be used with either flexible conduit coupling nut or cable clamp. Cannon Electric Development Co., Los Angeles, Calif.

K-2 **Vitrohm Strip Resistor.** Bulletin 23, 8½" × 11", 1 page, shows construction and gives specifications for a new strip resistor. Ward Leonard Electric Co., Mt. Vernon, N. Y.

K-3 **Vapor Degreasers.** Folder, 8½" × 11", 4 pages, describes a number of cleaning machines to remove oil and grease. Model 14 is a small bench-type degreaser suitable for cleaning instruments. Phillips Mfg. Co., 3475 W. Touhy Ave., North Town Station, Chicago, Ill.

K-4 **Laminated Solenoids.** Bulletin 842, 8½ × 11", 2 pages, describes two new solenoids designed for hydraulic valves and general industrial purposes. Maximum magnetic force for given electrical input is effected by design, laminated frame and plunger and other features. Dean W. Davis & Co., 549 W. Fulton St., Chicago, Ill.

K-5 **Optical Lens Tissues.** Leaflet, 8½" × 11", 1 page, gives specifications and prices for tissues designed to meet the specialized needs of various types of optical and precision instrument makers, laboratory needs and photographic users. A. Rosmarin, 2117 83 St., Brooklyn, N. Y.

K-6 **Multicircuit Switch.** GEA 3903, 8" × 10", 2 pages, outlines features, contact ratings, dimensions and weights of a new compact multicircuit switch which opens, closes, or transfers 20 circuits simultaneously by means of a two-position operating knob. General Electric Co., Schenectady, N. Y.

K-7 **Instrument Washer.** Folder, 8½" × 10", 4 pages, illustrates a washer for production cleaning of small parts, jewels, bearings, spindles, screws, odd and complicated shapes, small electrical parts, relays parts, etc., for aircraft maintenance and repair shops. Naxon Utilities Corp., 2101 Walnut St., Chicago, Ill.

K-8 **Midget Pumps.** Catalog P-104, 4" × 9", 16 pages, illustrates a number of midget pumps intended for laboratory and experimental work. Capacities vary from ½ gallon per minute to 8 gallons per minute. Eastern Engineering Co., 45 Fox St., New Haven, Conn.

K-9 **General Radio Experimenter.** The October issue discusses the "Frequency Characteristics of Decade Condensers," while the November issue is devoted to "Progress in Signal Generator Design." General Radio Co., 30 State St., Cambridge A, Mass.

K-10 **High-Efficiency R. F. Amplifiers.** The July 1942 issue contains an article with the above title written by the Engineering Dept. of the Aerovox Corp., New Bedford, Mass.

K-11 **Field Rheostats.** Bulletin 60A, 8½" × 11", 16 pages, gives general information and descriptions of various models of field rheostats and accessories. Ward Leonard Electric Co., Mt. Vernon, N. Y.

K-12 **Electronic Timer.** Bulletin, 8½" × 11", 4 pages, describes an adjustable timing relay with immediate automatic resetting for timing periods from 1/20 second on. It is designed for single actuation as well as for sequence timing and recycling in continuous operation. Photovolt Corp, 95 Madison Ave., New York, N. Y.

K-13 **Precision Balances.** Catalog 4550, 8½" × 11", 4 pages, illustrates 2 new model balances operating on the torsion principle. Roller-Smith Co., Bethlehem, Pa.

K-14 **Ohmite News.** The November issue of the *Ohmite News* describes the use of Ohmite Rheostats in the American Export Airline's huge flying boat. It also contains a number of other short notes. Ohmite Mfg. Co., 4835 Flournoy St., Chicago, Ill.

K-15 **Repeat Cycle Timer.** Bulletin T-32, 8½" × 11", 2 pages, describes a new construction, simply and ruggedly built, which can be adjusted quickly and easily. Accuracy is within 1% over entire range. Automatic Temperature Control Co., 34 E. Logan St., Philadelphia, Pa.

K-16 **Strain Gages.** Bulletin 169 describes an entirely new method for determining stresses in structures and machines, while Bulletin 170 describes a strain recorder. Both bulletins give detailed descriptions of the two instruments as well as installation operating information. Baldwin Southwark Corp., Paschall P. O., Philadelphia, Pa.

K-17 **Gas Analysis Apparatus.** Bulletin 42-12, 7½" × 9", 6 pages, illustrates portable and laboratory models of gas analysis apparatus featuring new catalytic and copper oxide units to supersede the previous combustion pipette. Burrell Technical Supply Co., 1936 Fifth Ave., Pittsburgh, Pa.

K-18 **Precision Inspection Instrument.** The Micro-Chek Bulletin, 8½" × 11", 8 pages, describes a visual indicator comparator gage, designed especially to facilitate rapid inspection of close tolerance parts. Trico Products Corp., Buffalo, N. Y.

K-19 **Alloy Instruments Pivots.** Bulletin 38, 8½" × 11", 4 pages, gives properties and other data of Aeropoint Permium instrument pivots which it is claimed assures dependable, trouble free performance of ships' compasses, aircraft instruments, sensitive altimeters, micro-ammeters, millivoltmeters, etc. Paralov Co., 600 S. Michigan Ave., Chicago, Ill.

K-20 **Low and High Temperature Test Chamber.** Bulletin RTC3, 8½" × 11", 2 pages, lists the various features of the instrument test chambers manufactured by American Coils, Inc., 25 Lexington St., Newark, N. J.

K-21 **C D Capacitor.** The October 1942 issue of this house organ contains part 2 of an article entitled "Theory of the Cathode Ray Oscilloscope." The issue also contains a number of practical suggestions on the solution of radio servicing problems encountered in actual experience by servicemen. Cornell Dubilier Electric Corp., 1049 Hamilton Blvd., So. Plainfield. N. J.

K-22 **Cathode Ray Oscillograph.** Leaflet 850, 8½" × 11", 2 pages, gives specifications and other data on the Model 850, 5" oscillograph which has had increasing application by industries and laboratories. Triumph Manufacturing Co., 913 W. Van Buren St., Chicago, Ill.

K-23 **Oscillograph Accessory Apparatus.** Form 32B, 8½" × 11", 2 pages, covers the following: A general purpose 5"-9" oscillograph; an oscillograph pre-

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amplifier; a radio "annular sweep"; pressure pick-up for gasoline or diesel engines; detonation amplifier for determination and study of detonation in gasoline and diesel engines; a capacity corrected attenuator-calibrator for ignition and high voltage wave shape or peak voltage determinations. Rowe Radio Research Laboratory Co., 4201 Irving Park Blvd., Chicago, Ill.

K-24 **Balancing Machines.** Bulletin 761, 8½" × 11", 6 pages, illustrates several models of static universal balancing machines. The bulletin has an introduction on the importance of balancing. Taylor Manufacturing Co., 2330 W. Clybourn St., Milwaukee, Wis.

K-25 **Electrical Test Panels.** Bulletin 115, 8½" × 11", 16 pages, covers the following materials and equipment: Test panels, precision timers, chronotachometers, plugs and jacks, lugs and binding posts. Standard Electric Time Co., Springfield, Mass.

K-26 **Salt Spray Test Equipment.** Leaflet, 8½" × 11", 2 pages, describes four models and lists specifications and special features. Industrial Filter & Pump Co., 3017 W. Carroll Ave., Chicago, Ill.

K-27 **Instrument Rectifiers.** Leaflet, 8½" × 11", 2 pages, gives specifications for instrument and relay rectifiers. Emby Products Co., Inc., 1800 W. Pico Blvd., Los Angeles, Calif.

K-28 **Mercury Switches.** Leaflet, 3½" × 6½", 4 pages, illustrates a small insulated, metallic, double sealed, gas filled, mercury switch. Bacon Electric Timer Corp., 4513 Brooklyn Ave., Cleveland, Ohio.

K-29 **Explosion-Proof Thermostats.** Leaflet R-505, 8½" × 11", 2 pages, gives specifications and dimensions of controls for line voltage heating or refrigerating applications. White - Rodgers Electric Co., 1209 Cass Ave., St. Louis, Mo.

K-30 **Airplane Engine Service Equipment.** Bulletin, 8½" × 11", 12 pages, shows, in addition to other equipment, two models of test starter bench designed to all types of airplane starters. Airplane Mfg. & Supply Corp., Lockheed Air Terminal, Burbank, Calif.

K-31 **Laboratory Equipment.** Bulletin 498, 8½" × 11", 12 pages, covers laboratory sinks, acid proof pipe and pipe fittings, ventilating equipment, and fans and exhausters. United States Stoneware Co., 60 East 42 St., New York, N. Y.

K-32 **Pressed Steel Rheostats.** Bulletin 69, 8½" × 11", 4 pages, gives specifications, parts list and mounting dimensions of rheostats with solid rectangular and round contacts. Ward Leonard Electric Co., Mt. Vernon, N. Y.

K-33 **Radio Formulas and Data Book.** Booklet, 5" × 3¼", 40 pages, is a handy, pocket-sized handbook of most frequently used mathematical formulas, tables, data and standards in the field of radio and electronics. This booklet, edited by Nelson M. Cooke, Chief Radio Electrician, U. S. Navy, eliminates time-consuming search through numerous books for information constantly used by radio and electronic engineers and maintenance men. Publication is priced at 10 cents, however, free copies will be sent to engineers and maintenance men who send requests, on company letterheads, direct to Allied Radio Corp., 833 West Jackson Blvd., Chicago, Ill.

K-34 **Clicks from the Counter.** The November-December 1942 of this house organ has a number of interesting articles of general interest: Of the People; Definition for Today; To Your Service Men; Who is Essential; Interruption to Parade of States; Notes from the Counting House. Durant Manufacturing Co., 1965 N. Buffum St., Milwaukee, Wis.

K-35 **Conditioning Feed Water for High Pressure Boilers.** This reprint from September and October 1942 issues of Power Plant Engineering discusses the requirements for high pressure boilers and modern feedwater conditioning. Cochrane Corp., 17th & Allegheny Ave., Philadelphia, Pa.

K-36 **Photocopying.** Folder, 8½" × 11", 4 pages, describes a photo copy machine which makes actual size, identical copies up to 18" × 22". American Photocopy Equipment Co., 2849 North Clark St., Chicago, Ill.

K-37 **Cenco News Chats.** The December 1942 issue contains a number of interesting articles: Laboratory Science and the War Effort; Joseph Henry 1799-1878; Seasoned Lumber; Physics Field Most Critical; Abbott Laboratories. Central Scientific Co., 1700 Irving Park Road, Chicago, Ill.

K-38 **Transparent Vitreosil.** Bulletin 10, 8½" × 11", 4 pages, illustrates standard apparatus and utensils of vitreous silica for continuous service at 1000°-1100°C. Thermal Syndicate, Ltd., 12 East 46 St., New York, N. Y.

K-39 **Electrical Control Devices.** Catalogue 9300, looseleaf, 8½" × 11", 48 pages, covers the following items: Circuit Breaker and Toggle Switch; Manual Antenna Transfer Switch; Push Switches for Mechanical Operation; Manual Lever Switch; Manually Operated Master Switches; Inverter Relay; Tab Motor Relay; D.C. Magnetic Contactors; Snap Action Push Buttons; Precision Switch Unit; Timing Relays; and D.C. Magnetic Holding Solenoid. Square D Company, 4041 N. Richards St., Milwaukee, Wis.

K-40 **Porter-Lipp Strain Gage.** Bulletin 166, 8½" × 11", 4 pages, describes an entirely new method for determining stresses in structures and machines, gives detailed descriptions of the three standard gages, their application in measuring and recording dynamic and semi-dynamic strains. Baldwin-Southwark Corp., Paschall P.O., Philadelphia, Pa.

K-41 **Illuminated Magnifier.** Folder, 8½" × 11", 4 pages, illustrates various applications of an illuminated magnifier for close inspection, fine assembly and precision machining. Boyer - Campbell Co., 6540 Antoine St., Detroit, Mich.

K-42 **Surface Test Indicator.** Leaflet, 3" × 6"; 6 pages, describes a 3-way surface test indicator and illustrates a number of applications. J. R. Reich Mfg. Co., 45 E Stroop Road, Dayton, O.

K-43 **Multirange Test Set.** One sheet, 8½" × 11", shows full size illustration and lists features of Model 351 Test Set. Has 28 ranges. Triumph Mfg. Co., 913 W. Van Buren Street, Chicago, Ill.

K-44 **Continuous Flow Colorimeter.** Two sheets, 8½" × 11" describe a colorimeter for immediate and direct indication of the light transmission of a liquid flowing through the instrument. Suitable for continuous registration of concentration, color or turbidity of solutions in chemical processes. Photovolt Corp., 95 Madison Ave., New York, N. Y.

K-45 **Liquid Level Gages.** Catalogue 31, 8½" × 11", 32 pages, describes and illustrates a large number of liquid level gages of the following types: Gear Driven; Tube; and Side Arm. Boston Auto Gage Co., Pittsfield, Mass.

K-46 **Dynamometers.** Bulletin 760, 8½" × 11", 4 pages, describes a dynamometer for testing automobiles, trucks, tractors, airplanes, diesels, gears, engines, motors, pistons, carburetors, belts, clutches, etc. Taylor Mfg. Co., 2330 W. Clybourn St., Milwaukee, Wis.

K-47 **Mercury Switches.** Bulletin 505, 8½" × 11", 4 pages, contains technical specifications, operating characteristics and application data. Durakool, Inc., 1010 N. Main St., Elkhart, Ind.

K-48 **High & Low Temperature Test Chambers Using Dry Ice.** One sheet, 8½" × 11", gives features, dimensions and specifications of this type test chamber. American Coils, Inc., 25 Lexington St., Newark, N. J.

K-49 **Aerovox Research Worker.** The May 1942 issue of this house organ has an article "Taking Complete A. F. Amplifier Data" by the Engineering Dept. of the Aerovox Corp., New Bedford, Mass.

(Continued on Page I-122)

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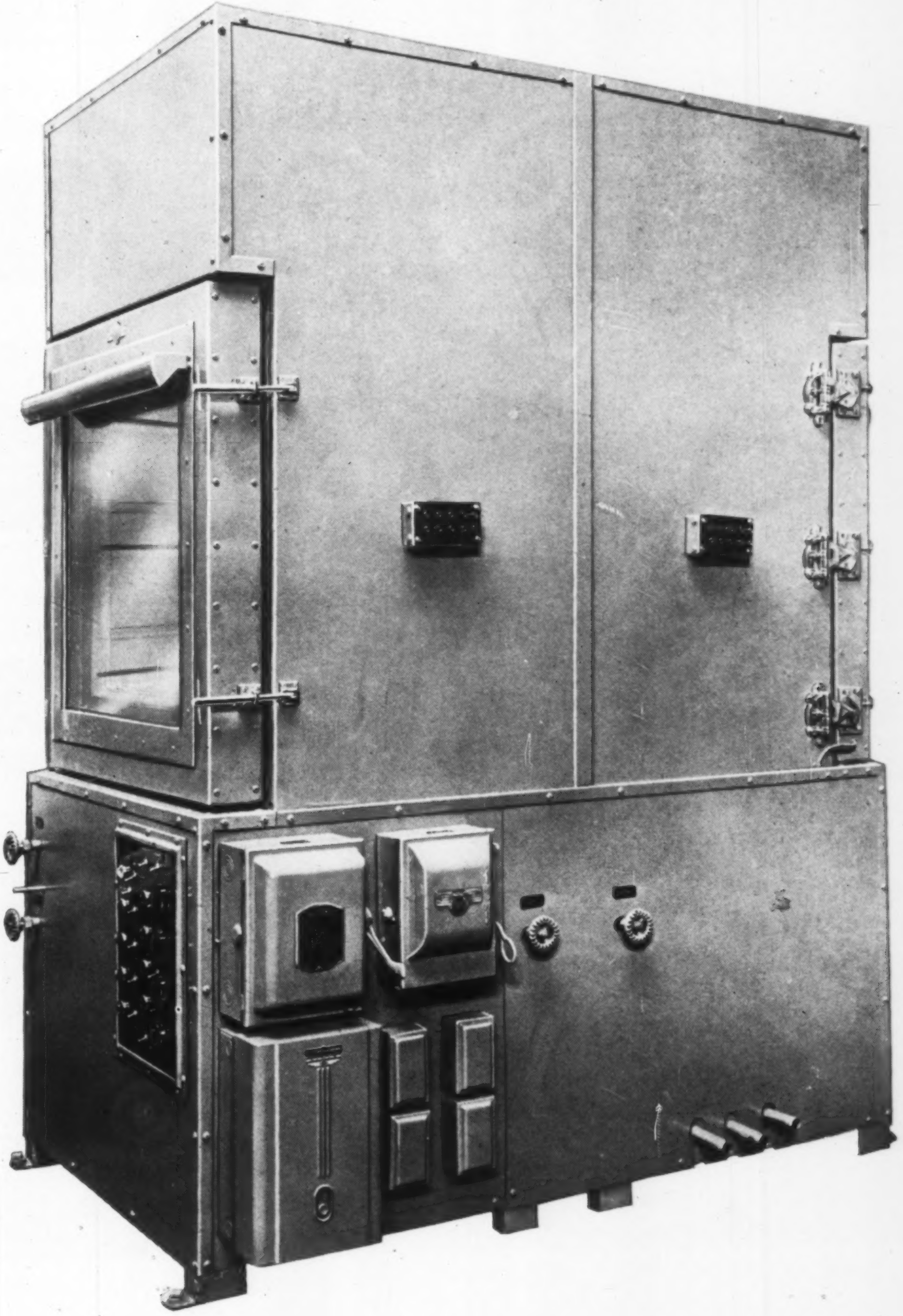

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Vacuum: to .5" Hg absolute.

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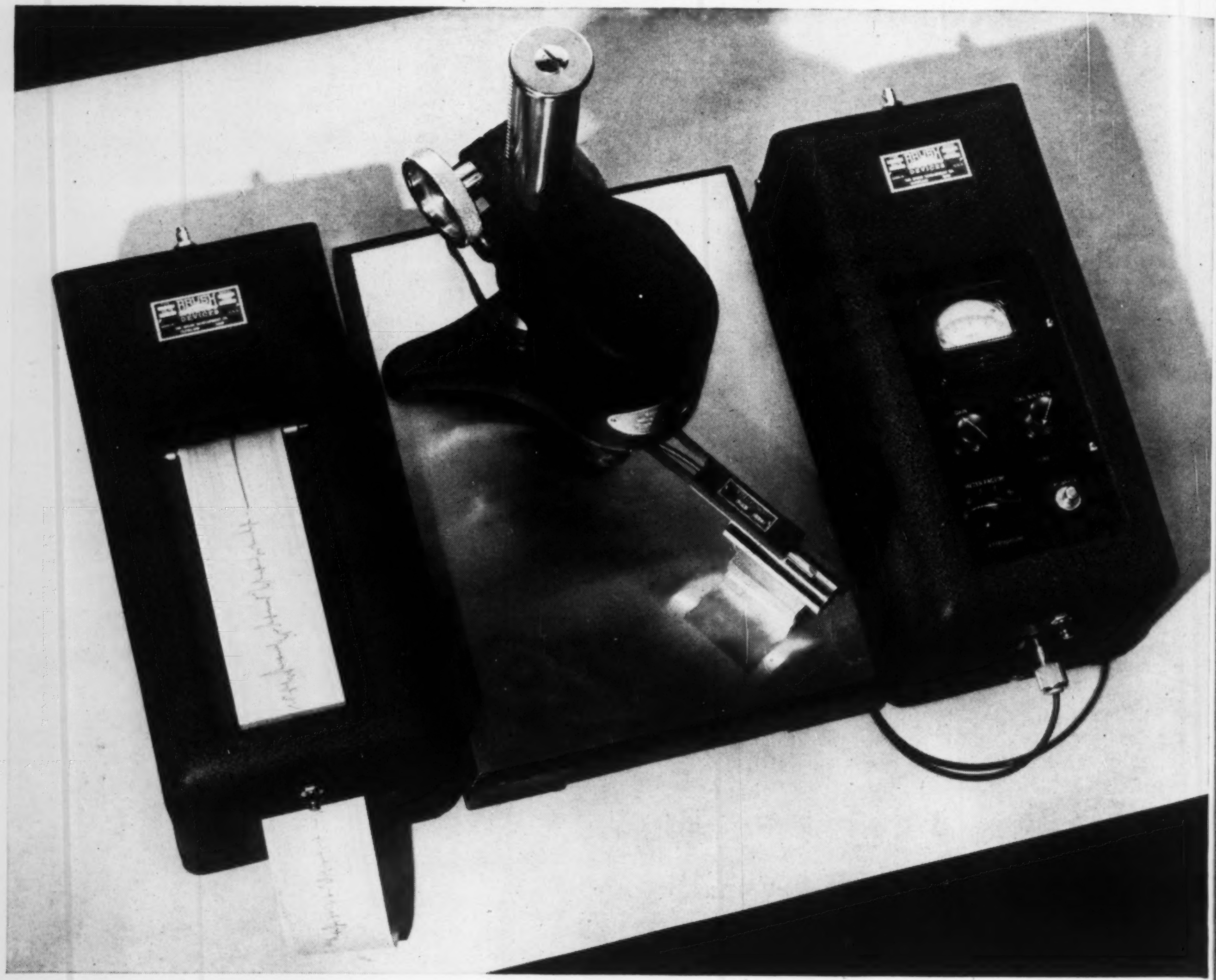

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AMCOIL

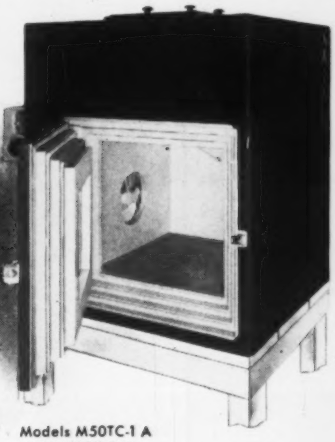
Quick, Sure Instrument Testing

For low or high temperature, and humidity testing of delicate precision instruments Amcoil Test Chambers offer these outstanding advantages:

- **Quicker Pull Down**
- **Completely Automatic**
- **Easier to Operate**
- **Long Trouble-Free Life**
- **More Tests per Hour**
- **More Tests per Dollar**

Models RTC-1
and RTC-1A

Model RTC-3



Models M50TC-1 A
and M50TC-2 A

		Temperature Range		DIMENSIONS							
				EXTERIOR				USABLE INTERIOR			
Model No.	TYPE OF Refrigeration (Quick Pull Down)	Centigrade	Fahrenheit	Height Cabinet	Height Stand	Width	Depth	Height	Width	Depth	Cu. Ft.
RTC-1	Mechanical	–55° to +70°	–67° to +160°	56½″	35¾″	71″	42″	28½″	59″	30″	28.7
RTC-1A	Mechanical	–70° to +70°	–95° to +160°	56½″	35¾″	71″	42″	27½″	52″	30″	25
RTC-3	Mechanical	–55° to +70°	–67° to +160°	41″	34″	50″	36″	19″	27″	26″	7.7
M50TC-1A	Dry Ice	–55° to +70°	–67° to +160°	43″	X	40″	40″	21″	21″	28″	7
M50TC-2A	Dry Ice	–55° to +70°	–67° to +160°	53″	X	52″	43″	28″	25½″	28″	11

Further details will be furnished on request. Address Dept. — I-1

TRADE MARK REGISTERED

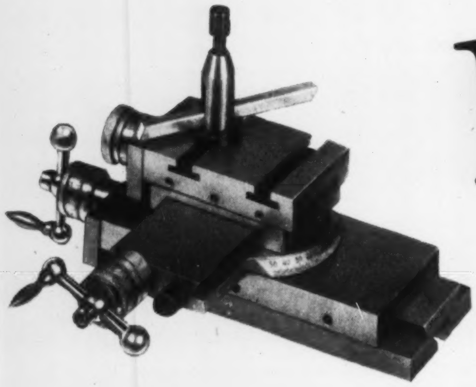
AMCOIL

AMERICAN COILS CO.

25-27 LEXINGTON STREET • NEWARK, N. J.

3553

Peerless
WATCH CRAFT
3



For PRECISION AEROPLANE INSTRUMENT Repairs!

If you do any instrument repair or precision work you need the assortment of tools shown. It is the approved kit used by the armed forces at their air bases. Precision built through-out, yet made rugged to stand hard usage, every shop should have them.

Also Complete Line of Hand Tools

Includes fine quality Tweezers, Pliers, Hammers, Mallets, and other items pertaining to shop equipment.

SOLD TO DEFENSE INDUSTRIES UNDER PRIORITY RATINGS ONLY

All inquiries to BOX 7737, CHICAGO

MAIL THIS COUPON!

C. & E. MARSHALL CO.
Box 7737, Chicago

☐ Please send me information regarding PRECISION LATHE and attachments.

☐ Ask for Our Catalog W.

Name..................................

Address..................................

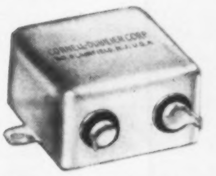
Marco
C.&E. MARSHALL CO.
A GREATER VALUE — A GREATER SERVICE

SAFEGUARD YOUR INSTRUMENTS
with
CORNELL-DUBILIER CAPACITORS

No instrument—for battlefront or production front—is ever more dependable than its components. So long as instruments jam and stick in Alaskan gales, break down under Algerian temperatures or fail because they are unprepared for abnormal Burmese humidity, there's need for more dependable components.

Capacitors for instruments are generally small. They are also comparatively inexpensive in relation to the cost of the entire instrument. But as small and inexpensive as they may be — they're critically important! That is why leading manufacturers of instruments safeguard the dependability of their product by using C-Ds.

The dependable stamina of C-Ds is built-in — not alone through use of finest quality materials, but by addition of priceless, "know-how", accumulated over more than thirty-three years of exclusive specialization in the manufacture of capacitors. Cornell-Dubilier superiority — hidden to the eye — is evidenced in extra dependability and long life. If your requirements include capacitors, safeguard your instruments by standardizing on C-Ds. Our engineers will gladly cooperate in determining the most suitable type capacitor for your specific requirements. Cornell Dubilier Electric Corporation, South Plainfield, New Jersey.



Low Capacity Dykanol Capacitor
Type DY

Specifically designed for operation at elevated temperature and humidity conditions, the type DY capacitors are ideally suited for r.f. and a.f. bypass and coupling applications. Check these features:

Hermetically sealed in non-corrosive containers. Are not affected by moisture and temperature up to 85°C.

Impregnated and filled with Dykanol. Dykanol is the famous chlorinated diphenyl impregnant of non-inflammable, high dielectric characteristics.

Special pressure-sealed terminals. Leak-proof joints... bakelite insulated.

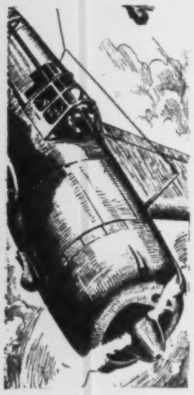
Conservative voltage rating. Can be safely operated at 10% about rated voltage.

Cornell Dubilier capacitors

MICA • DYKANOL • PAPER
WET AND DRY ELECTROLYTICS

MORE IN USE TODAY THAN ANY OTHER MAKE

Spencer Stereoscopic Microscope in use at a Western Naval Air Station



. . . and all returned safely

Enemy anti-aircraft shells and fighter planes are not the only hazards to American Airmen. Successful operations depend also on the mechanical perfection of the planes.

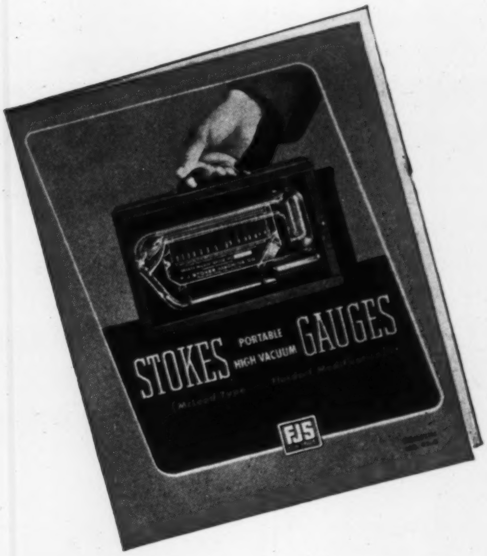
Fatigue and stresses caused by millions of revolutions in service sometimes produce dangerous internal weaknesses in airplane propellers. Periodically, therefore, every propeller is subjected to tests and inspection. The surface is etched with acid which reveals any minute cracks or other evidences of internal strain.

Stereoscopic Microscopes are used for examining these telltale clues—another example of how microscopes aid in maintaining the health and safety of our fighting men.

* * *

Optical instruments are so vital to war and public health that the nation's needs absorb practically all of Spencer's greatly increased production.

Spencer LENS COMPANY
BUFFALO, NEW YORK
SCIENTIFIC INSTRUMENT DIVISION OF
AMERICAN OPTICAL COMPANY



STOKES *High Vacuum* GAUGES

● For Accurate Quantitative Readings of High Vacuum in Rapid Succession

Efficiency in high vacuum practice demands accurate measurement, in laboratory or manufacturing plant. These gauges make it possible.

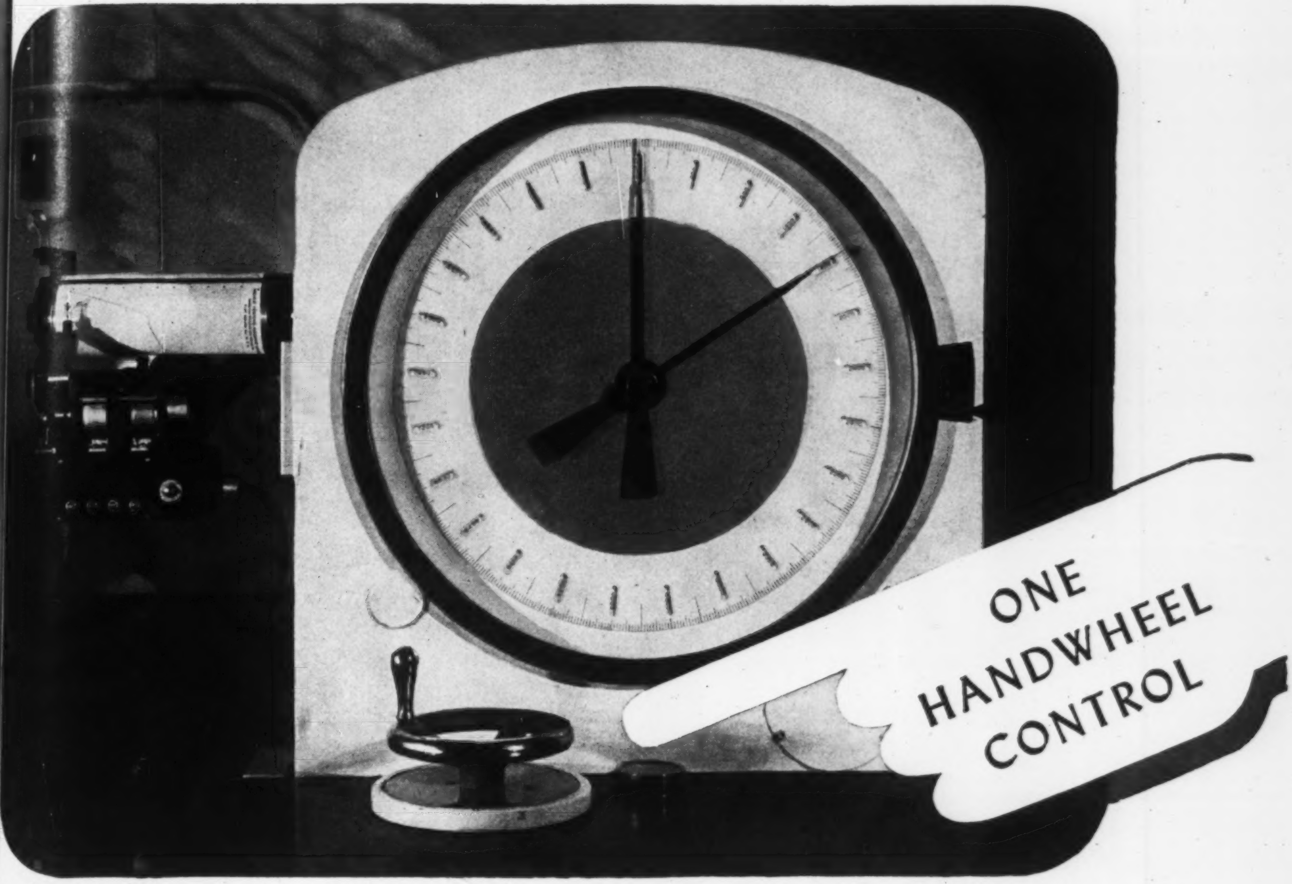
They are compact, rugged, convenient to use. Readings are taken in only a few seconds, without the aid of any assisting gauge, reference vacuum, batteries or electrical connections. Used as portable instruments or on fixed mountings. Widely applicable in all vacuum operations within the micron and 5 mm. ranges.

More than 1000 of these instruments are now in use, in physics, organic and physical chemistry laboratories and by Industry . . . for applications such as drying blood plasma and biologicals from the frozen state, organic distillation under higher vacuum than heretofore (in which ordinary closed-end manometers are not adequate) and for testing efficiencies of vacuum methods, apparatus and systems.

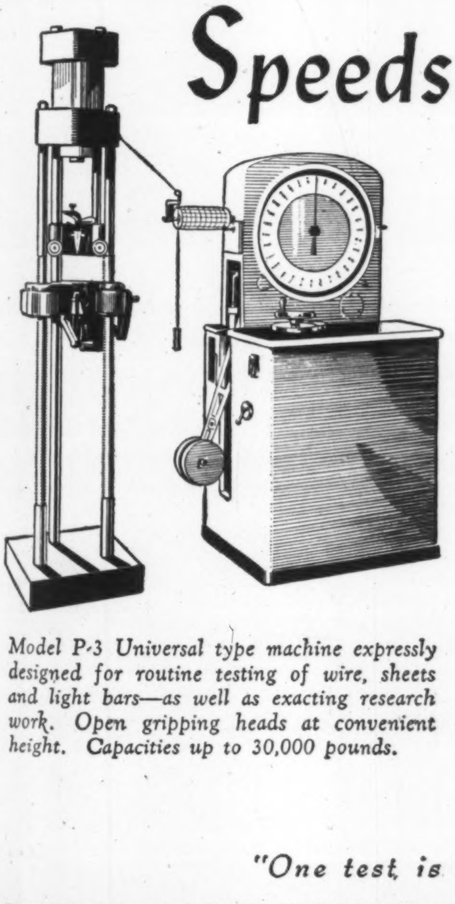
New Bulletin No. 42-G describes these improved instruments, their many uses, contains specifications, prices, etc.

F. J. STOKES, MACHINE COMPANY
5958 Tabor Road Olney P. O. Philadelphia, Pa.

F.J.Stokes FJS Est 1895



Speeds production testing



Model P-3 Universal type machine expressly designed for routine testing of wire, sheets and light bars—as well as exacting research work. Open gripping heads at convenient height. Capacities up to 30,000 pounds.

Because of the urgent needs of war, many materials must be tested for service on a production basis. For greater speed in testing, only Riehle Universal Hydraulic Testing Machines offer ONE HANDWHEEL CONTROL. Straining head speeds are completely controlled from fast forward to fast return in one revolution. Provides precise control for slow speeds. Number of testing speeds is unlimited because regulation is stepless. Operation is so simple, Riehle Testing Machines can be operated by anyone with a minimum of training. These machines will help you to produce more and better equipment in the battle of production.

RIEHLE
TESTING MACHINES

DIVISION OF
American Machine and Metals, Inc., East Moline, Illinois

"One test is worth a thousand expert opinions"

UNIVERSAL MACHINES FOR TENSION, COMPRESSION AND TRANSVERSE TESTING • IMPACT TESTERS • VICKERS HARDNESS MACHINES • BRINNELL HARDNESS TESTERS AND MEASURING INSTRUMENTS

70 WAR INDUSTRIES are NOW using

L&R PRECISION CLEANING MACHINES & SOLUTIONS

CLEAN.. ...RINSE

POLISH.. ...DRY

Snapping On Work Basket

Basket Revolving In Solution

Basket In Drying Chamber

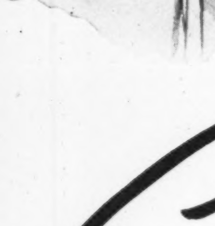
CLEAN - RINSE - POLISH - DRY. Four easy steps, all in one unit, have simplified the most difficult cleaning tasks in industry, today. Instruments, meters, gauges, bearings, motor assemblies, jewels, jeweled bearings, clocks and related small parts are now cleaned and dried to highest inspection standards SPEEDILY, in L&R Equipment. Results are always uniformly perfect. L&R Cleaning Machines are portable - - productive - - precisely what war production requires to keep up with its accelerated pace. ☆ ☆ ☆ Write for detailed descriptive literature. L&R chemists and engineers are at your disposal. Enlist their aid, NOW, to eliminate your particular precision cleaning problems.

L&R MANUFACTURING COMPANY

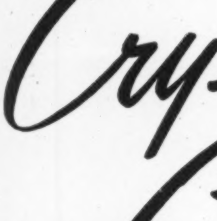
54 CLINTON STREET Dept. 11 NEWARK, NEW JERSEY

Our Twelfth Year Building Precision Cleaning Equipment Exclusively

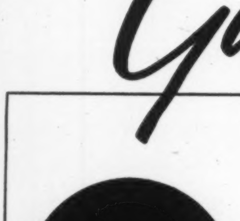
Crystal Gazing IN THIS ELECTRONIC AGE



Two batches of different steel alloys became mixed. They had to be sorted quickly, positively, economically. This oscillograph pattern served to identify one alloy from the other.



A manufacturer of ignition equipment wanted to check operating conditions. This is what he saw when a defective condenser was across breaker points.



A musical instrument manufacturer wanted an "electronic blueprint" of good tone. This oscillograph gave him the wave form to be matched for good-tone accordions.

★ Knobs are adjusted; a green dot gyrates to weave a weird pattern; the operator is fascinated by the graphic story unfolding before his eyes. Truly *crystal gazing*, in this electronic age. And dealing with the past, present and future of a host of details encountered in research, production, servicing—*scientifically*.

A decade ago the cathode-ray oscillograph was a scientific curiosity. A dozen or two such costly instruments existed in this country, mainly in lavishly equipped laboratories. But Allen B. DuMont pioneered the commercial cathode-ray tube and oscillograph. With advanced engineering and economical production methods, he brought such equipment within reach of everyone. Today DuMont equipment is standard in laboratories, engineering departments, plants, maintenance routine—and in military operations, of course.

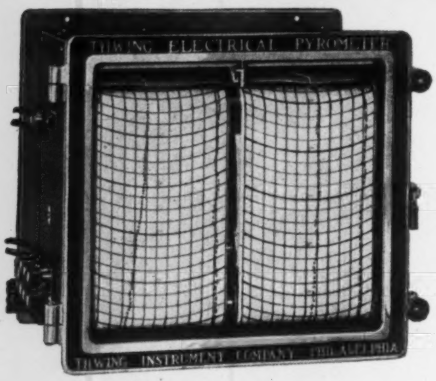
Regardless what your job may be or what industry or war effort you serve, it can be done better, quicker, cheaper, if you resort to this *electronic crystal gazing*, with DuMont equipment.

✦ **Write for Literature . . .**

DUMONT

ALLEN B. DU MONT
LABORATORIES, Inc.
Passaic · New Jersey
Cable Address Wespexlin, New York

THWING-ALBERT Plan


THWING ELECTRICAL PYROMETER
THWING INSTRUMENT COMPANY PHILADELPHIA

Multiple Recording Pyrometer

THWING INSTRUMENT COMPANY
PHILADELPHIA, U.S.A.

Indicating Pyrometer
combined with
Selector Switch

Radiation Pyrometer
for Rotary Kiln

Portable
Radiation
Pyrometer

Treasure Chest
Pyrometer and Thermocouple
Testing Set.

FOR THE WAR EFFORT

Enlarged Manufacturing Facilities

BOTH FOR OUR STANDARD LINES AND SPECIAL INSTRUMENTS FOR AIRCRAFT

Our new home in the Germantown District of Philadelphia provides th increased manufacturing facilities needed for the manufacture of Thwing Albert Instruments serving the War Effort. In many instances we are servin our Government directly and in many more instances we are serving privat industry; doing our part in the great task of producing the supplies an equipment needed for the Arsenal of Democracy.

Standard Thwing-Albert Instruments cover a wide range of application including: a complete line of recording and indicating thermo-electri pyrometers for all heat treatment and heating processes; pyrometers for ob taining temperature readings of molten metal in iron and brass foundries recording and indicating radiation pyrometers for highest temperature

SERIAL NO.
TYPE
AUTOMATIC CONTROLLER
THWING INSTRUMENT COMPANY
PHILADELPHIA, U.S.A.

Automatic Temperature Controller

A5X Pyrometer for molten
non-ferrous metals

Portable
pH Meter

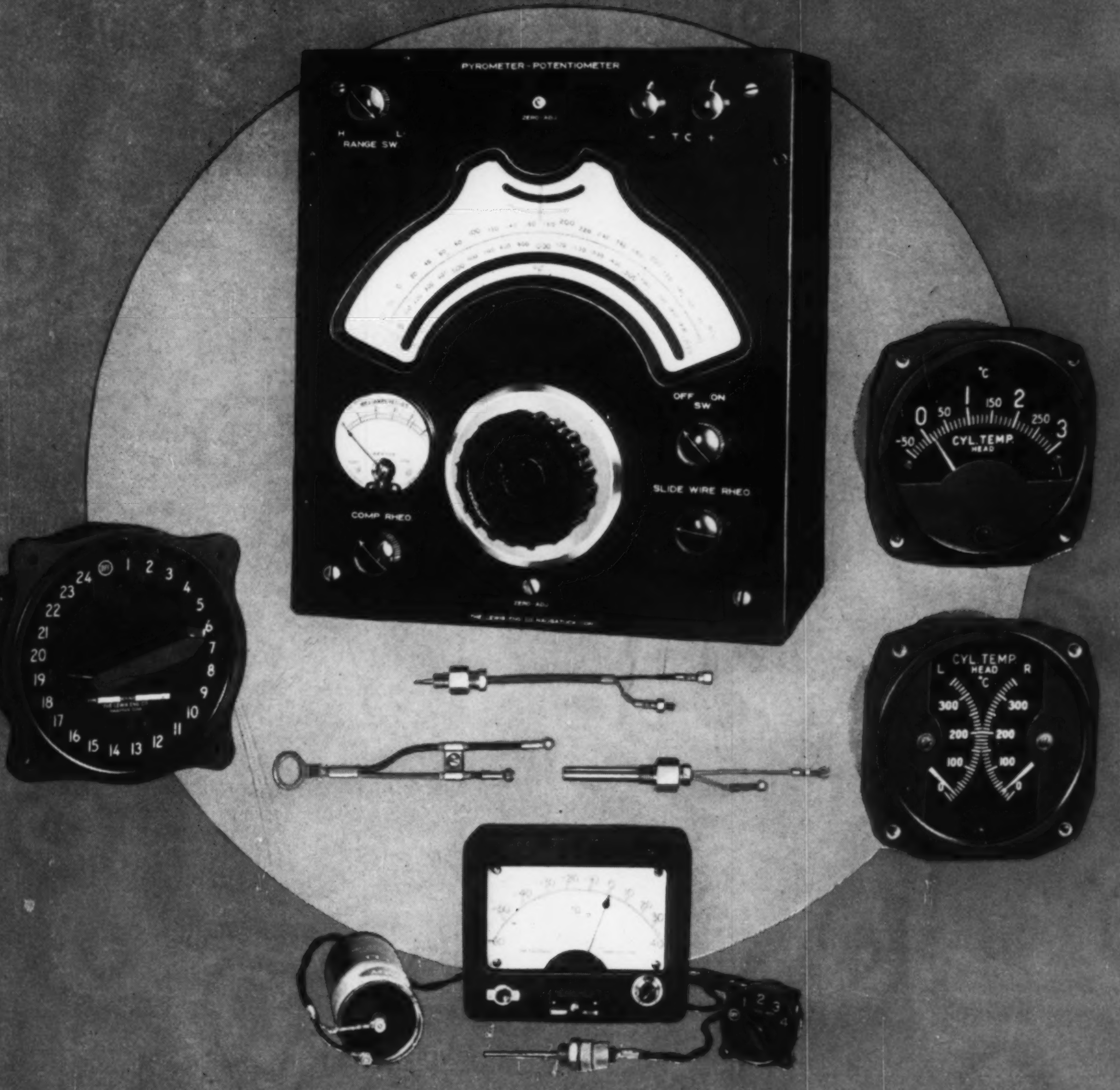
Thwing-Albe

Manufacturers of Scient

5323 PULASKI AVENUE

Commercial Instr

'Made by Lewis'—YOUR GUARANTEE . . . of the best in Engine Temperature Measuring Instruments

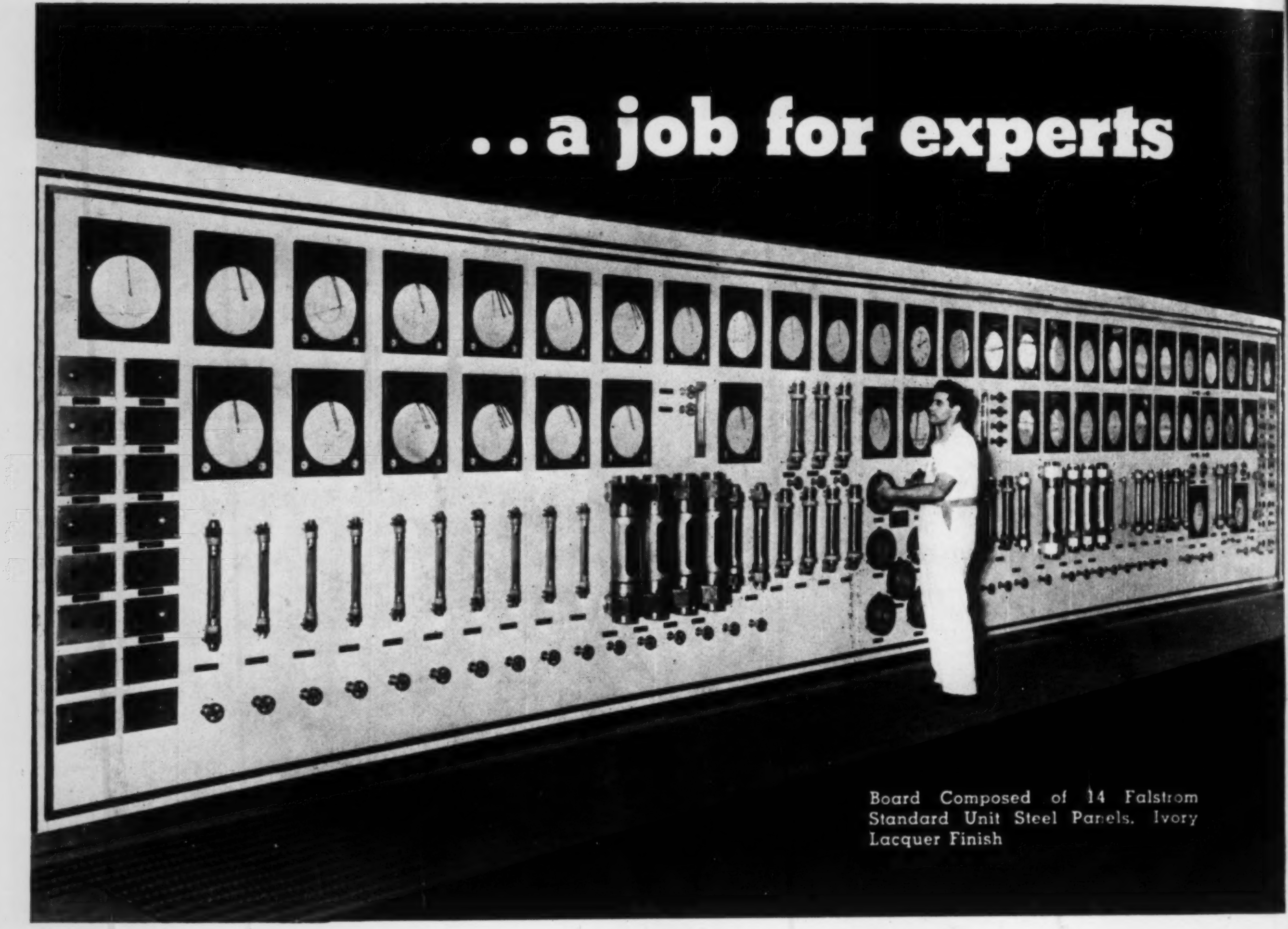


PYROMETER - POTENTIOMETER
H L
RANGE SW
ZERO ADJ
– T C +
OFF ON
SW
SLIDE WIRE RHEO
COMP RHEO
ZERO ADJ
°C
CYL. TEMP.
HEAD
CYL TEMP
HEAD
°C
L R

Spotlighted here, around the famous Lewis pyrometer potentiometer, are a few of the Lewis instruments and accessories whose performance has earned the Lewis Engineering Company acknowledged leadership in the manufacture of engine temperature measuring instruments.

The rugged and versatile pyrometer potentiometer is used to measure cylinder head temperature, engine base temperature, oil, carburetor air, and free air temperatures. Also shown are typical models of Lewis rotary selector switches, resistance thermometers, standard thermocouples, extension leads, and thermocouple type engine cylinder temperature indicators. For complete data on these, and other Lewis instruments, write, on your company letterhead, for the Lewis aircraft instrument catalog.

THE LEWIS ENGINEERING COMPANY
NAUGATUCK, CONN.



Board Composed of 14 Falstrom Standard Unit Steel Panels, Ivory Lacquer Finish

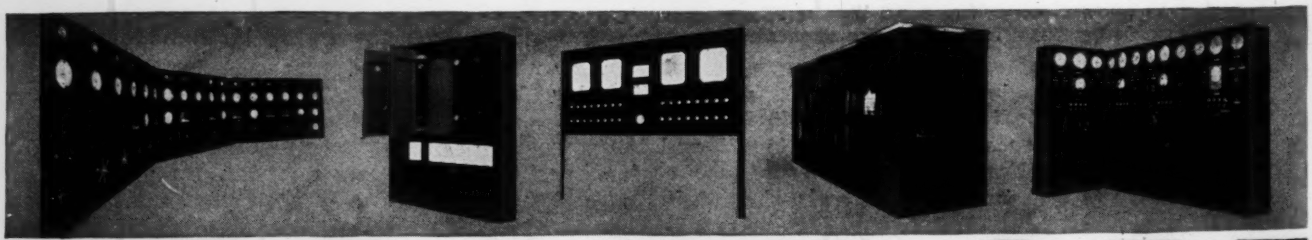
STEEL PANELS BY FALSTROM

THE construction of steel panels for an instrument board as large as this impressive installation certainly is a job for experts. Experts to design the system . . . to appoint the contractor . . . to select instruments and controls . . . and finally, experts to build the steel panels.

Falstrom has been awarded thousands of panel jobs, large and small, because of its reputation of service in this field . . . a service which includes proper interpretation of customers drawings . . . recommendations for better or less expensive fabricating methods . . . precise manufacture . . . faultless surface finish . . . and, now very important, reasonable deliveries.

For emergency defense construction, more now than ever, you must be sure to build right and to build fast. Falstrom can help you meet those delivery dates on all types of steel switchgear mounting or enclosing structures as well as other fabricated steel parts. For quotations, send your blueprints. Write for free catalogs to Falstrom Company, Falstrom Court, Passaic, New Jersey.

STEEL INSTRUMENT PANELS — CUBICLES — CABINETS — SWITCHGEAR ENCLOSURES FOR EVERY INSTALLATION NEED.



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